



NCR: Yes / No

DQA: \_\_\_\_\_ Date: \_\_\_\_\_

**WORK ORDER NON-CONFORMANCE / UPDATE**

QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

| Work Order:  |      | DISPOSITION                                       |  | AGAINST DEPARTMENT/PROCESS   |  |                                 |             |              |              |  |  |  |  |
|--|------|---|--|--|--|---------------------------------|-------------|--------------|--------------|--|--|--|--|
| Part No. _____<br>NCR No. _____  |      | Rework<br>Scrap<br>Use-as-is<br>Work Order Update | Skid-tube<br>Machining<br>Thermoforming<br>Large Fab | Crosstube<br>Small Fab<br>Finishing<br>Composite   | Water Jet<br>Prod. Eng. Coor.<br>Rec/Store/Packaging<br>Supplier | Engineering<br>Quality<br>Other |             |              |              |  |  |  |  |
| Root Cause   | Date | Step  | Qty  | Description of work order update or Non-conformance  | Initial Chief Eng  | Action Description              | Sign & Date | Verification | QC Inspector |  |  |  |  |
| Doc/Data   |      |   |  |  |  |                                 |             |              |              |  |  |  |  |
| Equip/Tooling  |      |   |  |  |  |                                 |             |              |              |  |  |  |  |
| Operator   |      |   |  |  |  |                                 |             |              |              |  |  |  |  |
| Material   |      |   |  |  |  |                                 |             |              |              |  |  |  |  |
| Setup  |      |   |  |  |  |                                 |             |              |              |  |  |  |  |
| Other  |      |   |  |  |  |                                 |             |              |              |  |  |  |  |
| Process  |      |   |  |  |  |                                 |             |              |              |  |  |  |  |
| Supplier   |      |   |  |  |  |                                 |             |              |              |  |  |  |  |
| Training   |      |   |  |  |  |                                 |             |              |              |  |  |  |  |
| Unapproved   |      |   |  |  |  |                                 |             |              |              |  |  |  |  |
| FAULT CATEGORY   |      |   |  |  |  |                                 |             |              |              |  |  |  |  |
| <b>Landing Gear</b><br><input type="checkbox"/> Bending<br><input type="checkbox"/> Centre Not Concentric to O/S<br><input type="checkbox"/> Cracks<br><input type="checkbox"/> Crushed/Crimped.<br><input type="checkbox"/> Cuffs<br><input type="checkbox"/> Heat Treat<br><input type="checkbox"/> Inspection Strip in Tube<br><input type="checkbox"/> Ripples in Bend<br><input type="checkbox"/> Torque Waves in Extrusion<br><input type="checkbox"/> Turning Sequence<br><input type="checkbox"/> Wave/Twist in Tube |      |   |  | <b>General</b><br><input type="checkbox"/> Bend<br><input type="checkbox"/> BOM/Route<br><input type="checkbox"/> Broken/Damaged<br><input type="checkbox"/> Burrs<br><input type="checkbox"/> Contamination<br><input type="checkbox"/> Countersink<br><input type="checkbox"/> Cut Too Short<br><input type="checkbox"/> Drill Holes<br><input type="checkbox"/> Drawing<br><input type="checkbox"/> Finish<br><input type="checkbox"/> Folio<br><input type="checkbox"/> Grain<br><input type="checkbox"/> Hardware<br><input type="checkbox"/> Inspection Incomplete<br><input type="checkbox"/> Instructions Incomplete/Unclear<br><input type="checkbox"/> Maintenance<br><input type="checkbox"/> Mislabeled<br><input type="checkbox"/> Misread<br><input type="checkbox"/> Offset<br><input type="checkbox"/> Out of Calibration<br><input type="checkbox"/> Out of Sequence<br><input type="checkbox"/> Outside Dimensions |  |                                 |             |              |              | <input type="checkbox"/> Ovalized<br><input type="checkbox"/> Over/Under tolerance<br><input type="checkbox"/> Part Incorrect<br><input type="checkbox"/> Part Lost/Missing<br><input type="checkbox"/> Part Moved<br><input type="checkbox"/> Positioned Wrong<br><input type="checkbox"/> Power Loss/Surge<br><br><hr/><br><hr/><br><hr/><br><hr/> |  |  |  |
|  |      |   |  |  |  |                                 |             |              |              | <input type="checkbox"/> Pressure/Forced<br><input type="checkbox"/> Temperature/Cure<br><input type="checkbox"/> Weld<br><input type="checkbox"/> Wrong Stock Pulled<br><br><hr/><br><hr/><br><hr/><br><hr/>  |  |  |  |
|  |      |   |  |  |  |                                 |             |              |              | <input type="checkbox"/> Other   |  |  |  |

**Work Order ID 90205**

**\*90205\***

Page 2

September-13-12 2:57:25 PM

**Item ID:** D212-664-107

Accept

**\*N900040100\***

Setup Start

**\*NS1\***

**Revision ID:**

**Item Name:** Crosstube Low Standard Fwd

Stop

**\*NS2\***

**Start Date:** 9/17/12    **Start Qty:** 1.00    **\*1\***

Cust Item ID:

**Required Date:** 10/12/12    **Req'd Qty:** 1.00    **\*1\***

Customer:

**Reference:**

**Approvals:** Process Plan:

Date:

Tooling:

Date:

Run Start

**\*NR1\***

QC:

Date:

SPC (Y/N):

Date:

Stop

**\*NR2\***

**Sequence ID/  
Work Center ID**

**Operation  
Description**

130

QC15- Crosstube Dimensional Check

**\*130\***

QC

Quality Control

Memo

Set Up/  
Run Hours

0.00

DAS  
16  
7/11/02

0.00

Tool ID

Tool #

Plan  
Code

Accept  
Qty

Reject  
Qty

Reject  
Number

Insp.  
Stamp

NCR: Yes / No

DQA: \_\_\_\_\_ Date: \_\_\_\_\_

## **WORK ORDER NON-CONFORMANCE / UPDATE**

QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_



NCR: Yes / No

DQA: \_\_\_\_\_ Date: \_\_\_\_\_

**WORK ORDER NON-CONFORMANCE / UPDATE**

QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

| Work Order: _____  |      | DISPOSITION                                |  | AGAINST DEPARTMENT/PROCESS   |  |                                      |             |              |              |
|--|------|--|--|--|--|--------------------------------------|-------------|--------------|--------------|
| Part No. _____   |      | Rework <input type="checkbox"/>            | Skid-tube <input type="checkbox"/>     | Crosstube <input type="checkbox"/>   | Water Jet <input type="checkbox"/>           | Engineering <input type="checkbox"/> |             |              |              |
| NCR No. _____  |      | Scrap <input type="checkbox"/>             | Machining <input type="checkbox"/>     | Small Fab <input type="checkbox"/>   | Prod. Eng. Coor. <input type="checkbox"/>    | Quality <input type="checkbox"/>     |             |              |              |
|  |      | Use-as-is <input type="checkbox"/>         | Thermoforming <input type="checkbox"/> | Finishing <input type="checkbox"/>   | Rec/Store/Packaging <input type="checkbox"/> | Other <input type="checkbox"/>       |             |              |              |
|  |      | Work Order Update <input type="checkbox"/> | Large Fab <input type="checkbox"/>     | Composite <input type="checkbox"/>   | Supplier <input type="checkbox"/>            |                                      |             |              |              |
| Root Cause   | Date | Step                                       | Qty                                    | Description of work order update or Non-conformance  | Initial Chief Eng                            | Action Description                   | Sign & Date | Verification | QC Inspector |
| Doc/Data   |      |  |  |  |  |                                      |             |              |              |
| Equip/Tooling  |      |  |  |  |  |                                      |             |              |              |
| Operator   |      |  |  |  |  |                                      |             |              |              |
| Material   |      |  |  |  |  |                                      |             |              |              |
| Setup  |      |  |  |  |  |                                      |             |              |              |
| Other  |      |  |  |  |  |                                      |             |              |              |
| Process  |      |  |  |  |  |                                      |             |              |              |
| Supplier   |      |  |  |  |  |                                      |             |              |              |
| Training   |      |  |  |  |  |                                      |             |              |              |
| Unapproved   |      |  |  |  |  |                                      |             |              |              |
| FAULT CATEGORY   |      |  |  |  |  |                                      |             |              |              |
| <b>Landing Gear</b><br><input type="checkbox"/> Bending<br><input type="checkbox"/> Centre Not Concentric to O/S<br><input type="checkbox"/> Cracks<br><input type="checkbox"/> Crushed/Crimped.<br><input type="checkbox"/> Cuffs<br><input type="checkbox"/> Heat Treat<br><input type="checkbox"/> Inspection Strip in Tube<br><input type="checkbox"/> Ripples in Bend<br><input type="checkbox"/> Torque Waves in Extrusion<br><input type="checkbox"/> Turning Sequence<br><input type="checkbox"/> Wave/Twist in Tube |      |  |  | <b>General</b><br><input type="checkbox"/> Bend<br><input type="checkbox"/> BOM/Route<br><input type="checkbox"/> Broken/Damaged<br><input type="checkbox"/> Burrs<br><input type="checkbox"/> Contamination<br><input type="checkbox"/> Countersink<br><input type="checkbox"/> Cut Too Short<br><input type="checkbox"/> Drill Holes<br><input type="checkbox"/> Drawing<br><input type="checkbox"/> Finish<br><input type="checkbox"/> Folio<br><br><input type="checkbox"/> Grain<br><input type="checkbox"/> Hardware<br><input type="checkbox"/> Inspection Incomplete<br><input type="checkbox"/> Instructions Incomplete/Unclear<br><input type="checkbox"/> Maintenance<br><input type="checkbox"/> Mislabeled<br><input type="checkbox"/> Misread<br><input type="checkbox"/> Offset<br><input type="checkbox"/> Out of Calibration<br><input type="checkbox"/> Out of Sequence<br><input type="checkbox"/> Outside Dimensions |  |                                      |             |              |              |
|  |      |  |  | <input type="checkbox"/> Ovalized<br><input type="checkbox"/> Over/Under tolerance<br><input type="checkbox"/> Part Incorrect<br><input type="checkbox"/> Part Lost/Missing<br><input type="checkbox"/> Part Moved<br><input type="checkbox"/> Positioned Wrong<br><input type="checkbox"/> Power Loss/Surge<br><br><input type="checkbox"/> Pressure/Forced<br><input type="checkbox"/> Temperature/Cure<br><input type="checkbox"/> Weld<br><input type="checkbox"/> Wrong Stock Pulled<br><br><input type="checkbox"/> Other  |  |                                      |             |              |              |
|  |      |  |  |  |  |                                      |             |              |              |
|  |      |  |  |  |  |                                      |             |              |              |
|  |      |  |  |  |  |                                      |             |              |              |



NCR: Yes / No

DQA: \_\_\_\_\_ Date: \_\_\_\_\_

## **WORK ORDER NON-CONFORMANCE / UPDATE**

QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

| Work Order: _____  |      |      | DISPOSITION   |   |  | AGAINST DEPARTMENT/PROCESS  |   |  |              |   |  |
|--|------|------|---|---|--|---|---|--|--------------|---|--|
|  |      |      | Rework<br><input type="checkbox"/><br>Scrap<br><input type="checkbox"/><br>Use-as-is<br><input type="checkbox"/><br>Work Order Update<br><input type="checkbox"/> | Skid-tube<br><input type="checkbox"/><br>Machining<br><input type="checkbox"/><br>Thermoforming<br><input type="checkbox"/><br>Large Fab<br><input type="checkbox"/>  | Crosstube<br><input type="checkbox"/><br>Small Fab<br><input type="checkbox"/><br>Finishing<br><input type="checkbox"/><br>Composite<br><input type="checkbox"/> | Water Jet<br><input type="checkbox"/><br>Prod. Eng. Coor.<br><input type="checkbox"/><br>Rec/Store/Packaging<br><input type="checkbox"/><br>Supplier<br><input type="checkbox"/>  | Engineering<br><input type="checkbox"/><br>Quality<br><input type="checkbox"/><br>Other<br><input type="checkbox"/> |  |              |   |  |
| Part No. _____   |      |      |   |   |  |   |   |  |              |   |  |
| NCR No. _____  |      |      |   |   |  |   |   |  |              |   |  |
| Root Cause   | Date | Step | Qty   | Description of work order update or Non-conformance   | Initial Chief Eng  | Action Description  | Sign & Date   | Verification   | QC Inspector |   |  |
| Doc/Data   |      |      |   |   |  |   |   |  |              |   |  |
| Equip/Tooling  |      |      |   |   |  |   |   |  |              |   |  |
| Operator   |      |      |   |   |  |   |   |  |              |   |  |
| Material   |      |      |   |   |  |   |   |  |              |   |  |
| Setup  |      |      |   |   |  |   |   |  |              |   |  |
| Other  |      |      |   |   |  |   |   |  |              |   |  |
| Process  |      |      |   |   |  |   |   |  |              |   |  |
| Supplier   |      |      |   |   |  |   |   |  |              |   |  |
| Training   |      |      |   |   |  |   |   |  |              |   |  |
| Unapproved   |      |      |   |   |  |   |   |  |              |   |  |
| FAULT CATEGORY   |      |      |   |   |  |   |   |  |              |   |  |
| <b>Landing Gear</b><br><input type="checkbox"/> Bending<br><input type="checkbox"/> Centre Not Concentric to O/S<br><input type="checkbox"/> Cracks<br><input type="checkbox"/> Crushed/Crimped.<br><input type="checkbox"/> Cuffs<br><input type="checkbox"/> Heat Treat<br><input type="checkbox"/> Inspection Strip in Tube<br><input type="checkbox"/> Ripples in Bend<br><input type="checkbox"/> Torque Waves in Extrusion<br><input type="checkbox"/> Turning Sequence<br><input type="checkbox"/> Wave/Twist in Tube |      |      |   | <b>General</b><br><input type="checkbox"/> Bend<br><input type="checkbox"/> BOM/Route<br><input type="checkbox"/> Broken/Damaged<br><input type="checkbox"/> Burrs<br><input type="checkbox"/> Contamination<br><input type="checkbox"/> Countersink<br><input type="checkbox"/> Cut Too Short<br><input type="checkbox"/> Drill Holes<br><input type="checkbox"/> Drawing<br><input type="checkbox"/> Finish<br><input type="checkbox"/> Folio |  | <input type="checkbox"/> Grain<br><input type="checkbox"/> Hardware<br><input type="checkbox"/> Inspection Incomplete<br><input type="checkbox"/> Instructions Incomplete/Unclear<br><input type="checkbox"/> Maintenance<br><input type="checkbox"/> Mislabeled<br><input type="checkbox"/> Misread<br><input type="checkbox"/> Offset<br><input type="checkbox"/> Out of Calibration<br><input type="checkbox"/> Out of Sequence<br><input type="checkbox"/> Outside Dimensions |   | <input type="checkbox"/> Ovalized<br><input type="checkbox"/> Over/Under tolerance<br><input type="checkbox"/> Part Incorrect<br><input type="checkbox"/> Part Lost/Missing<br><input type="checkbox"/> Part Moved<br><input type="checkbox"/> Positioned Wrong<br><input type="checkbox"/> Power Loss/Surge |              | <input type="checkbox"/> Pressure/Forced<br><input type="checkbox"/> Temperature/Cure<br><input type="checkbox"/> Weld<br><input type="checkbox"/> Wrong Stock Pulled |  |
|  |      |      |   |   |  |   |   |  |              |   |  |

Work Order ID 90205

September-13-12 2:57:25 PM

\*90205\*

Page 5

Item ID: D212-664-107

Accept

\*N900040100\*

Setup

Start

\*NS1\*

Revision ID:

Item Name: Crosstube Low Standard Fwd

Stop

\*NS2\*

Start Date: 9/17/12 Start Qty: 1.00 \*1\*

Cust Item ID:

Required Date: 10/12/12 Req'd Qty: 1.00 \*1\*

Customer:

Reference:

Approvals: Process Plan:

Date:

Tooling:

Date:

Run

Start

\*NR1\*

QC:

Date:

SPC (Y/N):

Date:

Stop

\*NR2\*

Sequence ID/  
Work Center ID

Operation  
Description

Set Up/  
Run Hours

Tool ID

Tool #

Plan  
Code

Accept  
Qty

Reject  
Qty

Reject  
Number

Insp.  
Stamp

190

\*1Qn\*

Packaging

Packaging

0.00

0.00

10/12/12/80

Packaging

Memo

Ensure copy of NDT results attached to work order.

200

\*200\*

QC

Quality Control

QC5- Inspect part completeness to step on W/O

0.00

Memo

\*\*\* WEAR LATEX GLOVES WHEN HANDLING CROSSTUBE\*\*\*

Inspect for damage & ensure results are as per Dwg D212-664-107

1 DAS 05 8-89 12-11-08

202

\*202\*

HandFXtube

Hand Finishing Crosstubes

0.00

Memo

\*\*\* WEAR LATEX GLOVES WHEN HANDLING CROSSTUBE\*\*\*

I- PRESSURE WASH AND THEN USE WASHIN WIPE TO CLEAN  
CROSSTUBE BEFORE CHEMICAL CONVERSION

1 Ø Ø 12-11-08

NCR: Yes / No

DQA: \_\_\_\_\_ Date: \_\_\_\_\_

## **WORK ORDER NON-CONFORMANCE / UPDATE**

QA Closed: Date:

| Work Order: _____   |      |      | DISPOSITION   |   |  | AGAINST DEPARTMENT/PROCESS   |   |              |              |   |  |  |  |   |  |
|---|------|------|---|---|--|--|---|--------------|--------------|---|--|--|--|---|--|
|   |      |      | Rework<br><input type="checkbox"/><br>Scrap<br><input type="checkbox"/><br>Use-as-is<br><input type="checkbox"/><br>Work Order Update<br><input type="checkbox"/> | Skid-tube<br><input type="checkbox"/><br>Machining<br><input type="checkbox"/><br>Thermoforming<br><input type="checkbox"/><br>Large Fab<br><input type="checkbox"/>  | Crosstube<br><input type="checkbox"/><br>Small Fab<br><input type="checkbox"/><br>Finishing<br><input type="checkbox"/><br>Composite<br><input type="checkbox"/> | Water Jet<br><input type="checkbox"/><br>Prod. Eng. Coor.<br><input type="checkbox"/><br>Rec/Store/Packaging<br><input type="checkbox"/><br>Supplier<br><input type="checkbox"/> | Engineering<br><input type="checkbox"/><br>Quality<br><input type="checkbox"/><br>Other<br><input type="checkbox"/> |              |              |   |  |  |  |   |  |
| Part No. _____  |      |      |   |   |  |  |   |              |              |   |  |  |  |   |  |
| NCR No. _____   |      |      |   |   |  |  |   |              |              |   |  |  |  |   |  |
| Root Cause  | Date | Step | Qty   | Description of work order update or Non-conformance   | Initial Chief Eng  | Action Description   | Sign & Date   | Verification | QC Inspector |   |  |  |  |   |  |
| Doc/Data  |      |      |   |   |  |  |   |              |              |   |  |  |  |   |  |
| Equip/Tooling   |      |      |   |   |  |  |   |              |              |   |  |  |  |   |  |
| Operator  |      |      |   |   |  |  |   |              |              |   |  |  |  |   |  |
| Material  |      |      |   |   |  |  |   |              |              |   |  |  |  |   |  |
| Setup   |      |      |   |   |  |  |   |              |              |   |  |  |  |   |  |
| Other   |      |      |   |   |  |  |   |              |              |   |  |  |  |   |  |
| Process   |      |      |   |   |  |  |   |              |              |   |  |  |  |   |  |
| Supplier  |      |      |   |   |  |  |   |              |              |   |  |  |  |   |  |
| Training  |      |      |   |   |  |  |   |              |              |   |  |  |  |   |  |
| Unapproved  |      |      |   |   |  |  |   |              |              |   |  |  |  |   |  |
| FAULT CATEGORY  |      |      |   |   |  |  |   |              |              |   |  |  |  |   |  |
| Landing Gear  |      |      |   | General   |  |  |   |              |              |   |  |  |  |   |  |
| <input type="checkbox"/> Bending<br><input type="checkbox"/> Centre Not Concentric to O/S<br><input type="checkbox"/> Cracks<br><input type="checkbox"/> Crushed/Crimped.<br><input type="checkbox"/> Cuffs<br><input type="checkbox"/> Heat Treat<br><input type="checkbox"/> Inspection Strip in Tube<br><input type="checkbox"/> Ripples in Bend<br><input type="checkbox"/> Torque Waves in Extrusion<br><input type="checkbox"/> Turning Sequence<br><input type="checkbox"/> Wave/Twist in Tube |      |      |   | <input type="checkbox"/> Bend<br><input type="checkbox"/> BOM/Route<br><input type="checkbox"/> Broken/Damaged<br><input type="checkbox"/> Burrs<br><input type="checkbox"/> Contamination<br><input type="checkbox"/> Countersink<br><input type="checkbox"/> Cut Too Short<br><input type="checkbox"/> Drill Holes<br><input type="checkbox"/> Drawing<br><input type="checkbox"/> Finish<br><input type="checkbox"/> Folio |  |  |   |              |              | <input type="checkbox"/> Grain<br><input type="checkbox"/> Hardware<br><input type="checkbox"/> Inspection Incomplete<br><input type="checkbox"/> Instructions Incomplete/Unclear<br><input type="checkbox"/> Maintenance<br><input type="checkbox"/> Mislabeled<br><input type="checkbox"/> Misread<br><input type="checkbox"/> Offset<br><input type="checkbox"/> Out of Calibration<br><input type="checkbox"/> Out of Sequence<br><input type="checkbox"/> Outside Dimensions |  | <input type="checkbox"/> Ovalized<br><input type="checkbox"/> Over/Under tolerance<br><input type="checkbox"/> Part Incorrect<br><input type="checkbox"/> Part Lost/Missing<br><input type="checkbox"/> Part Moved<br><input type="checkbox"/> Positioned Wrong<br><input type="checkbox"/> Power Loss/Surge |  | <input type="checkbox"/> Pressure/Forced<br><input type="checkbox"/> Temperature/Cure<br><input type="checkbox"/> Weld<br><input type="checkbox"/> Wrong Stock Pulled |  |
|   |      |      |   |   |  |  |   |              |              |   |  |  |  | <input type="checkbox"/> Other  |  |

**Work Order ID 90205**

September-13-12 2:57:25 PM

**\*90205\***

Page 6

Item ID: D212-664-107

Accept

**\*N900040100\***

Setup

Start

**\*NS1\***

Revision ID:

Item Name: Crosstube Low Standard Fwd

Stop

**\*NS2\***

Start Date: 9/17/12 Start Qty: 1.00

**\*1\***

Cust Item ID:

Required Date: 10/12/12 Req'd Qty: 1.00

**\*1\***

Customer:

Reference:

Approvals: Process Plan:

Date:

Tooling:

Date:

Run

Start

**\*NR1\***

QC:

Date:

SPC (Y/N):

Date:

Stop

**\*NR2\***Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run Hours

Tool ID

Tool #

Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

205

**\*205\***

QC

Quality Control

QC7-Inspect Chemical Conversion Coat

0.00

1

DAS  
05  
9-09

12 11 R

210

**\*210\***

Crosstubes

Crosstubes

0.00

1

0

0

A

12-11-09

Crosstubes

Memo

0.00

\*\*\* WEAR LATEX GLOVES WHEN HANDLING CROSSTUBE\*\*\*

1-Rivet Cuffs as per Dwg D212-664-147. with Sika flex in Between tube &amp; Cuff

A/R SIKAFLEX -241-291 BATCH: 123025

215

**\*215\***

QC

Quality Control

QC5- Inspect part completeness to step on W/O

0.00

1

DAS  
05  
9-09

12-11-09

Memo

0.00

\*\*\* WEAR LATEX GLOVES WHEN HANDLING CROSSTUBE\*\*\*

NCR: Yes / No

DQA: \_\_\_\_\_ Date: \_\_\_\_\_

**WORK ORDER NON-CONFORMANCE / UPDATE**

QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

| Work Order: _____  |      |      | DISPOSITION                                   |  |                                       | AGAINST DEPARTMENT/PROCESS                      |   |              |              |  |  |
|--|------|------|---|--|---------------------------------------|---|---|--------------|--------------|--|--|
|  |      |      | Rework<br><input type="checkbox"/>            | Skid-tube<br><input type="checkbox"/>  | Crosstube<br><input type="checkbox"/> | Water Jet<br><input type="checkbox"/>           | Engineering<br><input type="checkbox"/> |              |              |  |  |
|  |      |      | Scrap<br><input type="checkbox"/>             | Machining<br><input type="checkbox"/>  | Small Fab<br><input type="checkbox"/> | Prod. Eng. Coor.<br><input type="checkbox"/>    | Quality<br><input type="checkbox"/>     |              |              |  |  |
|  |      |      | Use-as-is<br><input type="checkbox"/>         | Thermoforming<br><input type="checkbox"/>  | Finishing<br><input type="checkbox"/> | Rec/Store/Packaging<br><input type="checkbox"/> | Other<br><input type="checkbox"/>       |              |              |  |  |
|  |      |      | Work Order Update<br><input type="checkbox"/> | Large Fab<br><input type="checkbox"/>  | Composite<br><input type="checkbox"/> | Supplier<br><input type="checkbox"/>            |   |              |              |  |  |
| Root Cause   | Date | Step | Qty   | Description of work order update or Non-conformance  | Initial Chief Eng                     | Action Description                              | Sign & Date                             | Verification | QC Inspector |  |  |
| Doc/Data   |      |      |   |  |                                       |   |   |              |              |  |  |
| Equip/Tooling  |      |      |   |  |                                       |   |   |              |              |  |  |
| Operator   |      |      |   |  |                                       |   |   |              |              |  |  |
| Material   |      |      |   |  |                                       |   |   |              |              |  |  |
| Setup  |      |      |   |  |                                       |   |   |              |              |  |  |
| Other  |      |      |   |  |                                       |   |   |              |              |  |  |
| Process  |      |      |   |  |                                       |   |   |              |              |  |  |
| Supplier   |      |      |   |  |                                       |   |   |              |              |  |  |
| Training   |      |      |   |  |                                       |   |   |              |              |  |  |
| Unapproved   |      |      |   |  |                                       |   |   |              |              |  |  |
| FAULT CATEGORY   |      |      |   |  |                                       |   |   |              |              |  |  |
| <b>Landing Gear</b><br><input type="checkbox"/> Bending<br><input type="checkbox"/> Centre Not Concentric to O/S<br><input type="checkbox"/> Cracks<br><input type="checkbox"/> Crushed/Crimped.<br><input type="checkbox"/> Cuffs<br><input type="checkbox"/> Heat Treat<br><input type="checkbox"/> Inspection Strip in Tube<br><input type="checkbox"/> Ripples in Bend<br><input type="checkbox"/> Torque Waves in Extrusion<br><input type="checkbox"/> Turning Sequence<br><input type="checkbox"/> Wave/Twist in Tube |      |      |   | <b>General</b><br><input type="checkbox"/> Bend<br><input type="checkbox"/> BOM/Route<br><input type="checkbox"/> Broken/Damaged<br><input type="checkbox"/> Burrs<br><input type="checkbox"/> Contamination<br><input type="checkbox"/> Countersink<br><input type="checkbox"/> Cut Too Short<br><input type="checkbox"/> Drill Holes<br><input type="checkbox"/> Drawing<br><input type="checkbox"/> Finish<br><input type="checkbox"/> Folio<br><input type="checkbox"/> Grain<br><input type="checkbox"/> Hardware<br><input type="checkbox"/> Inspection Incomplete<br><input type="checkbox"/> Instructions Incomplete/Unclear<br><input type="checkbox"/> Maintenance<br><input type="checkbox"/> Mislabeled<br><input type="checkbox"/> Misread<br><input type="checkbox"/> Offset<br><input type="checkbox"/> Out of Calibration<br><input type="checkbox"/> Out of Sequence<br><input type="checkbox"/> Outside Dimensions |                                       |   |   |              |              |  |  |
|  |      |      |   | <input type="checkbox"/> Ovalized<br><input type="checkbox"/> Over/Under tolerance<br><input type="checkbox"/> Part Incorrect<br><input type="checkbox"/> Part Lost/Missing<br><input type="checkbox"/> Part Moved<br><input type="checkbox"/> Positioned Wrong<br><input type="checkbox"/> Power Loss/Surge<br><input type="checkbox"/> Other   |                                       |   |   |              |              |  |  |
|  |      |      |   | <input type="checkbox"/> Pressure/Forced<br><input type="checkbox"/> Temperature/Cure<br><input type="checkbox"/> Weld<br><input type="checkbox"/> Wrong Stock Pulled  |                                       |   |   |              |              |  |  |

Work Order ID 90205

September-13-12 2:57:25 PM

\*90205\*

Page 7

Item ID: D212-664-107

Accept

\*N900040100\*

Setup

Start

\*NS1\*

Revision ID:

Item Name: Crosstube Low Standard Fwd

Stop

\*NS2\*

Start Date: 9/17/12 Start Qty: 1.00

\*1\*

Cust Item ID:

Required Date: 10/12/12 Req'd Qty: 1.00

\*1\*

Customer:

Reference:

Approvals: Process Plan:

Date:

Tooling:

Date:

Run

Start

\*NR1\*

QC:

Date:

SPC (Y/N):

Date:

Stop

\*NR2\*

Sequence ID/  
Work Center ID

Operation  
Description

Set Up/  
Run Hours

Tool ID

Tool #

Plan  
Code

Accept  
Qty

Reject  
Qty

Reject  
Number

Insp.  
Stamp

220

\*220\*

SprayPaint

SprayPaint

0.00

1

DAS  
05  
8-8 12/11/11

Spray Painting

Memo

0.00

\*\*\* WEAR LATEX GLOVES WHEN HANDLING CROSSTUBE\*\*\*

1-Prime inside and outside crosstube as per QSI 005 4.2

2-Paint outside crosstube with White Imron as per QSI 005 4.2

PRIME:

Start Time: 6:00

Finish Time: 7:00

PAINT:

Start Time: 11:00

Finish Time: 12:00

230

QC14- Inspect Spray Paint

0.00

\*230\*

QC

Quality Control

Memo

0.00

Wrap in plastic bag to protect from scratches

ZC 12-11-11 X1

NCR: Yes / No

DQA: \_\_\_\_\_ Date: \_\_\_\_\_

**WORK ORDER NON-CONFORMANCE / UPDATE**

QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

| Work Order: _____  |      |      | DISPOSITION                                   |  |                                       | AGAINST DEPARTMENT/PROCESS                      |   |              |              |  |  |
|--|------|------|---|--|---------------------------------------|---|---|--------------|--------------|--|--|
|  |      |      | Rework<br><input type="checkbox"/>            | Skid-tube<br><input type="checkbox"/>  | Crosstube<br><input type="checkbox"/> | Water Jet<br><input type="checkbox"/>           | Engineering<br><input type="checkbox"/> |              |              |  |  |
|  |      |      | Scrap<br><input type="checkbox"/>             | Machining<br><input type="checkbox"/>  | Small Fab<br><input type="checkbox"/> | Prod. Eng. Coor.<br><input type="checkbox"/>    | Quality<br><input type="checkbox"/>     |              |              |  |  |
|  |      |      | Use-as-is<br><input type="checkbox"/>         | Thermoforming<br><input type="checkbox"/>  | Finishing<br><input type="checkbox"/> | Rec/Store/Packaging<br><input type="checkbox"/> | Other<br><input type="checkbox"/>       |              |              |  |  |
|  |      |      | Work Order Update<br><input type="checkbox"/> | Large Fab<br><input type="checkbox"/>  | Composite<br><input type="checkbox"/> | Supplier<br><input type="checkbox"/>            |   |              |              |  |  |
| Root Cause   | Date | Step | Qty   | Description of work order update or Non-conformance  | Initial Chief Eng                     | Action Description                              | Sign & Date                             | Verification | QC Inspector |  |  |
| Doc/Data   |      |      |   |  |                                       |   |   |              |              |  |  |
| Equip/Tooling  |      |      |   |  |                                       |   |   |              |              |  |  |
| Operator   |      |      |   |  |                                       |   |   |              |              |  |  |
| Material   |      |      |   |  |                                       |   |   |              |              |  |  |
| Setup  |      |      |   |  |                                       |   |   |              |              |  |  |
| Other  |      |      |   |  |                                       |   |   |              |              |  |  |
| Process  |      |      |   |  |                                       |   |   |              |              |  |  |
| Supplier   |      |      |   |  |                                       |   |   |              |              |  |  |
| Training   |      |      |   |  |                                       |   |   |              |              |  |  |
| Unapproved   |      |      |   |  |                                       |   |   |              |              |  |  |
| FAULT CATEGORY   |      |      |   |  |                                       |   |   |              |              |  |  |
| <b>Landing Gear</b><br><input type="checkbox"/> Bending<br><input type="checkbox"/> Centre Not Concentric to O/S<br><input type="checkbox"/> Cracks<br><input type="checkbox"/> Crushed/Crimped.<br><input type="checkbox"/> Cuffs<br><input type="checkbox"/> Heat Treat<br><input type="checkbox"/> Inspection Strip in Tube<br><input type="checkbox"/> Ripples in Bend<br><input type="checkbox"/> Torque Waves in Extrusion<br><input type="checkbox"/> Turning Sequence<br><input type="checkbox"/> Wave/Twist in Tube |      |      |   | <b>General</b><br><input type="checkbox"/> Bend<br><input type="checkbox"/> BOM/Route<br><input type="checkbox"/> Broken/Damaged<br><input type="checkbox"/> Burrs<br><input type="checkbox"/> Contamination<br><input type="checkbox"/> Countersink<br><input type="checkbox"/> Cut Too Short<br><input type="checkbox"/> Drill Holes<br><input type="checkbox"/> Drawing<br><input type="checkbox"/> Finish<br><input type="checkbox"/> Folio<br><input type="checkbox"/> Grain<br><input type="checkbox"/> Hardware<br><input type="checkbox"/> Inspection Incomplete<br><input type="checkbox"/> Instructions Incomplete/Unclear<br><input type="checkbox"/> Maintenance<br><input type="checkbox"/> Mislabeled<br><input type="checkbox"/> Misread<br><input type="checkbox"/> Offset<br><input type="checkbox"/> Out of Calibration<br><input type="checkbox"/> Out of Sequence<br><input type="checkbox"/> Outside Dimensions |                                       |   |   |              |              |  |  |
|  |      |      |   | <input type="checkbox"/> Ovalized<br><input type="checkbox"/> Over/Under tolerance<br><input type="checkbox"/> Part Incorrect<br><input type="checkbox"/> Part Lost/Missing<br><input type="checkbox"/> Part Moved<br><input type="checkbox"/> Positioned Wrong<br><input type="checkbox"/> Power Loss/Surge<br><input type="checkbox"/> Other   |                                       |   |   |              |              |  |  |
|  |      |      |   | <input type="checkbox"/> Pressure/Forced<br><input type="checkbox"/> Temperature/Cure<br><input type="checkbox"/> Weld<br><input type="checkbox"/> Wrong Stock Pulled  |                                       |   |   |              |              |  |  |



NCR: Yes / No

## WORK ORDER NON-CONFORMANCE / UPDATE

DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

| Work Order: _____  |      | DISPOSITION                                       |  | AGAINST DEPARTMENT/PROCESS   |  |                                 |             |              |              |
|--|------|---|--|--|--|---------------------------------|-------------|--------------|--------------|
| Part No. _____<br>NCR No. _____  |      | Rework<br>Scrap<br>Use-as-is<br>Work Order Update | Skid-tube<br>Machining<br>Thermoforming<br>Large Fab | Crosstube<br>Small Fab<br>Finishing<br>Composite   | Water Jet<br>Prod. Eng. Coor.<br>Rec/Store/Packaging<br>Supplier | Engineering<br>Quality<br>Other |             |              |              |
| Root Cause   | Date | Step  | Qty  | Description of work order update or Non-conformance  | Initial Chief Eng  | Action Description              | Sign & Date | Verification | QC Inspector |
| Doc/Data   |      |   |  |  |  |                                 |             |              |              |
| Equip/Tooling  |      |   |  |  |  |                                 |             |              |              |
| Operator   |      |   |  |  |  |                                 |             |              |              |
| Material   |      |   |  |  |  |                                 |             |              |              |
| Setup  |      |   |  |  |  |                                 |             |              |              |
| Other  |      |   |  |  |  |                                 |             |              |              |
| Process  |      |   |  |  |  |                                 |             |              |              |
| Supplier   |      |   |  |  |  |                                 |             |              |              |
| Training   |      |   |  |  |  |                                 |             |              |              |
| Unapproved   |      |   |  |  |  |                                 |             |              |              |
| FAULT CATEGORY   |      |   |  |  |  |                                 |             |              |              |
| <b>Landing Gear</b><br><input type="checkbox"/> Bending<br><input type="checkbox"/> Centre Not Concentric to O/S<br><input type="checkbox"/> Cracks<br><input type="checkbox"/> Crushed/Crimped.<br><input type="checkbox"/> Cuffs<br><input type="checkbox"/> Heat Treat<br><input type="checkbox"/> Inspection Strip in Tube<br><input type="checkbox"/> Ripples in Bend<br><input type="checkbox"/> Torque Waves in Extrusion<br><input type="checkbox"/> Turning Sequence<br><input type="checkbox"/> Wave/Twist in Tube |      |   |  | <b>General</b><br><input type="checkbox"/> Bend<br><input type="checkbox"/> BOM/Route<br><input type="checkbox"/> Broken/Damaged<br><input type="checkbox"/> Burrs<br><input type="checkbox"/> Contamination<br><input type="checkbox"/> Countersink<br><input type="checkbox"/> Cut Too Short<br><input type="checkbox"/> Drill Holes<br><input type="checkbox"/> Drawing<br><input type="checkbox"/> Finish<br><input type="checkbox"/> Folio<br><input type="checkbox"/> Grain<br><input type="checkbox"/> Hardware<br><input type="checkbox"/> Inspection Incomplete<br><input type="checkbox"/> Instructions Incomplete/Unclear<br><input type="checkbox"/> Maintenance<br><input type="checkbox"/> Mislabeled<br><input type="checkbox"/> Misread<br><input type="checkbox"/> Offset<br><input type="checkbox"/> Out of Calibration<br><input type="checkbox"/> Out of Sequence<br><input type="checkbox"/> Outside Dimensions |  |                                 |             |              |              |
|  |      |   |  | <input type="checkbox"/> Ovalized<br><input type="checkbox"/> Over/Under tolerance<br><input type="checkbox"/> Part Incorrect<br><input type="checkbox"/> Part Lost/Missing<br><input type="checkbox"/> Part Moved<br><input type="checkbox"/> Positioned Wrong<br><input type="checkbox"/> Power Loss/Surge<br><hr/> <hr/>  |  |                                 |             |              |              |
|  |      |   |  | <input type="checkbox"/> Pressure/Forced<br><input type="checkbox"/> Temperature/Cure<br><input type="checkbox"/> Weld<br><input type="checkbox"/> Wrong Stock Pulled<br><hr/>   |  |                                 |             |              |              |
|  |      |   |  | <input type="checkbox"/> Other   |  |                                 |             |              |              |

**Work Order ID 90205**

**\*90205\***

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Item ID: D212-664-107

Accept

**\*N900040100\***

Setup

Start

**\*NS1\***

Revision ID:

Item Name: Crosstube Low Standard Fwd

Stop

**\*NS2\***

Start Date: 9/17/12 Start Qty: 1.00 **\*1\***

Cust Item ID:

Required Date: 10/12/12 Req'd Qty: 1.00 **\*1\***

Customer:

Reference:

Approvals: Process Plan:

Date:

Tooling:

Date:

Run

Start

**\*NR1\***

QC:

Date:

SPC (Y/N):

Date:

Stop

**\*NR2\***

Sequence ID/  
Work Center ID

Operation  
Description

Set Up/  
Run Hours

Tool ID

Tool #

Plan  
Code

Accept  
Qty

Reject  
Qty

Reject  
Number

Insp.  
Stamp

255

**\*255\***

Packaging

Packaging

Pick Kit

0.00

0.00

0.00

260

**\*260\***

QC

Quality Control

QC4- 100% Inspect kits for completeness

0.00

15  
10/11/12

0.00

10/11/12

270

**\*270\***

Packaging

Packaging

Packaging

0.00

Rec  
103

0.00

Identify and pack for shipping as per PPP D212-664-107

10/11/12

J

11 8 10/11/12 54

NCR: Yes / No

## WORK ORDER NON-CONFORMANCE / UPDATE

DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

| Work Order: _____  |      | DISPOSITION                                |  | AGAINST DEPARTMENT/PROCESS   |  |                                      |             |              |              |
|--|------|--|--|--|--|--------------------------------------|-------------|--------------|--------------|
| Part No. _____   |      | Rework <input type="checkbox"/>            | Skid-tube <input type="checkbox"/>     | Crosstube <input type="checkbox"/>   | Water Jet <input type="checkbox"/>           | Engineering <input type="checkbox"/> |             |              |              |
| NCR No. _____  |      | Scrap <input type="checkbox"/>             | Machining <input type="checkbox"/>     | Small Fab <input type="checkbox"/>   | Prod. Eng. Coor. <input type="checkbox"/>    | Quality <input type="checkbox"/>     |             |              |              |
|  |      | Use-as-is <input type="checkbox"/>         | Thermoforming <input type="checkbox"/> | Finishing <input type="checkbox"/>   | Rec/Store/Packaging <input type="checkbox"/> | Other <input type="checkbox"/>       |             |              |              |
|  |      | Work Order Update <input type="checkbox"/> | Large Fab <input type="checkbox"/>     | Composite <input type="checkbox"/>   | Supplier <input type="checkbox"/>            |                                      |             |              |              |
| Root Cause   | Date | Step                                       | Qty                                    | Description of work order update or Non-conformance  | Initial Chief Eng                            | Action Description                   | Sign & Date | Verification | QC Inspector |
| Doc/Data   |      |  |  |  |  |                                      |             |              |              |
| Equip/Tooling  |      |  |  |  |  |                                      |             |              |              |
| Operator   |      |  |  |  |  |                                      |             |              |              |
| Material   |      |  |  |  |  |                                      |             |              |              |
| Setup  |      |  |  |  |  |                                      |             |              |              |
| Other  |      |  |  |  |  |                                      |             |              |              |
| Process  |      |  |  |  |  |                                      |             |              |              |
| Supplier   |      |  |  |  |  |                                      |             |              |              |
| Training   |      |  |  |  |  |                                      |             |              |              |
| Unapproved   |      |  |  |  |  |                                      |             |              |              |
| FAULT CATEGORY   |      |  |  |  |  |                                      |             |              |              |
| <b>Landing Gear</b><br><input type="checkbox"/> Bending<br><input type="checkbox"/> Centre Not Concentric to O/S<br><input type="checkbox"/> Cracks<br><input type="checkbox"/> Crushed/Crimped.<br><input type="checkbox"/> Cuffs<br><input type="checkbox"/> Heat Treat<br><input type="checkbox"/> Inspection Strip in Tube<br><input type="checkbox"/> Ripples in Bend<br><input type="checkbox"/> Torque Waves in Extrusion<br><input type="checkbox"/> Turning Sequence<br><input type="checkbox"/> Wave/Twist in Tube |      |  |  | <b>General</b><br><input type="checkbox"/> Bend<br><input type="checkbox"/> BOM/Route<br><input type="checkbox"/> Broken/Damaged<br><input type="checkbox"/> Burrs<br><input type="checkbox"/> Contamination<br><input type="checkbox"/> Countersink<br><input type="checkbox"/> Cut Too Short<br><input type="checkbox"/> Drill Holes<br><input type="checkbox"/> Drawing<br><input type="checkbox"/> Finish<br><input type="checkbox"/> Folio<br><input type="checkbox"/> Grain<br><input type="checkbox"/> Hardware<br><input type="checkbox"/> Inspection Incomplete<br><input type="checkbox"/> Instructions Incomplete/Unclear<br><input type="checkbox"/> Maintenance<br><input type="checkbox"/> Mislabeled<br><input type="checkbox"/> Misread<br><input type="checkbox"/> Offset<br><input type="checkbox"/> Out of Calibration<br><input type="checkbox"/> Out of Sequence<br><input type="checkbox"/> Outside Dimensions |  |                                      |             |              |              |
|  |      |  |  | <input type="checkbox"/> Ovalized<br><input type="checkbox"/> Over/Under tolerance<br><input type="checkbox"/> Part Incorrect<br><input type="checkbox"/> Part Lost/Missing<br><input type="checkbox"/> Part Moved<br><input type="checkbox"/> Positioned Wrong<br><input type="checkbox"/> Power Loss/Surge<br><input type="checkbox"/> Other   |  |                                      |             |              |              |
|  |      |  |  |  |  |                                      |             |              |              |
|  |      |  |  |  |  |                                      |             |              |              |
|  |      |  |  |  |  |                                      |             |              |              |

**Work Order ID** 90205

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\*90205\*

Page 10

**Item ID:** D212-664-107

Accept

\*N900040100\*

Setup

Start

\*NS1\*

**Revision ID:**

**Item Name:** Crosstube Low Standard Fwd

Stop

\*NS2\*

**Start Date:** 9/17/12    **Start Qty:** 1.00    \*1\*

Cust Item ID:

**Required Date:** 10/12/12    **Req'd Qty:** 1.00    \*1\*

Customer:

**Reference:**

**Approvals:** Process Plan:

Date:

Tooling:

Date:

Run

Start

\*NR1\*

QC:

Date:

SPC (Y/N):

Date:

Stop

\*NR2\*

Sequence ID/  
Work Center ID

Operation  
Description

280

\*280\*

QC

Quality Control

Set Up/  
Run Hours

Tool ID

Tool #

Plan  
Code

Accept  
Qty

Reject  
Qty

Reject  
Number

Insp.  
Stamp

0.00

Memo

0.00

12/11/2012

MF  
12-11-19.

NCR: Yes / No

DQA: \_\_\_\_\_ Date: \_\_\_\_\_

**WORK ORDER NON-CONFORMANCE / UPDATE**

QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

| Work Order: _____   |      |      | DISPOSITION                                   |  |                                       | AGAINST DEPARTMENT/PROCESS                      |   |              |              |  |  |
|---|------|------|---|--|---------------------------------------|---|---|--------------|--------------|--|--|
|   |      |      | Rework<br><input type="checkbox"/>            | Skid-tube<br><input type="checkbox"/>  | Crosstube<br><input type="checkbox"/> | Water Jet<br><input type="checkbox"/>           | Engineering<br><input type="checkbox"/> |              |              |  |  |
|   |      |      | Scrap<br><input type="checkbox"/>             | Machining<br><input type="checkbox"/>  | Small Fab<br><input type="checkbox"/> | Prod. Eng. Coor.<br><input type="checkbox"/>    | Quality<br><input type="checkbox"/>     |              |              |  |  |
|   |      |      | Use-as-is<br><input type="checkbox"/>         | Thermoforming<br><input type="checkbox"/>  | Finishing<br><input type="checkbox"/> | Rec/Store/Packaging<br><input type="checkbox"/> | Other<br><input type="checkbox"/>       |              |              |  |  |
|   |      |      | Work Order Update<br><input type="checkbox"/> | Large Fab<br><input type="checkbox"/>  | Composite<br><input type="checkbox"/> | Supplier<br><input type="checkbox"/>            |   |              |              |  |  |
| Root Cause  | Date | Step | Qty   | Description of work order update or Non-conformance  | Initial Chief Eng                     | Action Description                              | Sign & Date                             | Verification | QC Inspector |  |  |
| Doc/Data  |      |      |   |  |                                       |   |   |              |              |  |  |
| Equip/Tooling   |      |      |   |  |                                       |   |   |              |              |  |  |
| Operator  |      |      |   |  |                                       |   |   |              |              |  |  |
| Material  |      |      |   |  |                                       |   |   |              |              |  |  |
| Setup   |      |      |   |  |                                       |   |   |              |              |  |  |
| Other   |      |      |   |  |                                       |   |   |              |              |  |  |
| Process   |      |      |   |  |                                       |   |   |              |              |  |  |
| Supplier  |      |      |   |  |                                       |   |   |              |              |  |  |
| Training  |      |      |   |  |                                       |   |   |              |              |  |  |
| Unapproved  |      |      |   |  |                                       |   |   |              |              |  |  |
| FAULT CATEGORY  |      |      |   |  |                                       |   |   |              |              |  |  |
| <b>Landing Gear</b><br><input type="checkbox"/> Bending<br><input type="checkbox"/> Centre Not Concentric to O/S<br><input type="checkbox"/> Cracks<br><input type="checkbox"/> Crushed/Crimped<br><input type="checkbox"/> Cuffs<br><input type="checkbox"/> Heat Treat<br><input type="checkbox"/> Inspection Strip in Tube<br><input type="checkbox"/> Ripples in Bend<br><input type="checkbox"/> Torque Waves in Extrusion<br><input type="checkbox"/> Turning Sequence<br><input type="checkbox"/> Wave/Twist in Tube |      |      |   | <b>General</b><br><input type="checkbox"/> Bend<br><input type="checkbox"/> BOM/Route<br><input type="checkbox"/> Broken/Damaged<br><input type="checkbox"/> Burrs<br><input type="checkbox"/> Contamination<br><input type="checkbox"/> Countersink<br><input type="checkbox"/> Cut Too Short<br><input type="checkbox"/> Drill Holes<br><input type="checkbox"/> Drawing<br><input type="checkbox"/> Finish<br><input type="checkbox"/> Folio<br><input type="checkbox"/> Grain<br><input type="checkbox"/> Hardware<br><input type="checkbox"/> Inspection Incomplete<br><input type="checkbox"/> Instructions Incomplete/Unclear<br><input type="checkbox"/> Maintenance<br><input type="checkbox"/> Mislabeled<br><input type="checkbox"/> Misread<br><input type="checkbox"/> Offset<br><input type="checkbox"/> Out of Calibration<br><input type="checkbox"/> Out of Sequence<br><input type="checkbox"/> Outside Dimensions |                                       |   |   |              |              |  |  |
|   |      |      |   | <input type="checkbox"/> Ovalized<br><input type="checkbox"/> Over/Under tolerance<br><input type="checkbox"/> Part Incorrect<br><input type="checkbox"/> Part Lost/Missing<br><input type="checkbox"/> Part Moved<br><input type="checkbox"/> Positioned Wrong<br><input type="checkbox"/> Power Loss/Surge<br><hr/> <hr/> <hr/>  |                                       |   |   |              |              |  |  |
|   |      |      |   | <input type="checkbox"/> Pressure/Forced<br><input type="checkbox"/> Temperature/Cure<br><input type="checkbox"/> Weld<br><input type="checkbox"/> Wrong Stock Pulled<br><hr/>   |                                       |   |   |              |              |  |  |
|   |      |      |   | <input type="checkbox"/> Other   |                                       |   |   |              |              |  |  |

# Picklist Print

September-13-12 2:57:25 PM

Page 1  
4

**Work Order ID:** 90205

**Parent Item:** D212-664-107

**Start Date:** 9/17/12

**Required Date:** 10/12/12

**Parent Item Name:** Crosstube Low Standard Fwd

**Start Qty:** 1.00

**Required Qty:** 1.00

**Comments:**

IPP Rev:A New Issue 07.09.12 EC verified by: JLM  
 IPP Rev:B ECN 1100 08-01-11 DD verified by: EC  
 IPP Rev:C Ecn 1121 08-02-25 DD Verified by:ec IPP Rev:D 10.05.27 added pick kit  
 DD verf:EC IPP Rev:E 11.10.17 added SEQ 215 DD verf:EC IPP  
 REV:F 11.11.03 as per chg003 DD verf:EC

| Component Item ID/<br>Item Name             | Replacement<br>Item ID | Mfg/<br>Purch | Bin<br>Item | Primary<br>Location | Last<br>Location | Route<br>Seq ID | Unit of<br>Measure | Qty on<br>Hand | Qty per Kit | Total<br>Qty | Qty<br>Issued | Date<br>Issued | Status  |
|---|------------------------|---------------|-------------|---------------------|------------------|-----------------|--------------------|----------------|-------------|--------------|---------------|----------------|---------|
| D212-664-107TRN<br>Crosstube Turning Detail |                        | Manufactured  | No          | 89115               |                  | 140             | Each               | 0.0000         | 1           | 1            |               | JW             | 12-11-1 |
| D3659-1<br>CUFF                             |                        | Manufactured  | No          |                     |                  | 220             | Each               | 9.0000         | 2           | 2            |               |                |         |

| Location | Loc Qty | Loc Code |
|----------|---------|----------|
| ST477    | 1       |          |
| 87469    | 1       |          |
| ST482    | 8       |          |
| 87469    | 4       |          |
| 88419    | 4       |          |

|                             |           |    |        |     |      |          |    |    |  |  |  |  |
|-----------------------------|-----------|----|--------|-----|------|----------|----|----|--|--|--|--|
| CR3212-4-06<br>CHERRY RIVET | Purchased | No | 123301 | 240 | Each | 752.0000 | 44 | 44 |  |  |  |  |
|-----------------------------|-----------|----|--------|-----|------|----------|----|----|--|--|--|--|

| Location | Loc Qty | Loc Code |
|----------|---------|----------|
| ST329    | 459     |          |
| 122378   | 459     |          |
| ST330    | 240     |          |
| 120521   | 40      |          |
| 122141   | 200     |          |
| ST331    | 53      |          |
| 112492   | 18      |          |
| 112794   | 8       |          |
| 119717   | 27      |          |

|    |    |    |         |
|----|----|----|---------|
| 44 | 44 |    |         |
| 44 | 44 | A8 | 10-11-9 |

NCR: Yes / No

DQA: \_\_\_\_\_ Date: \_\_\_\_\_

**WORK ORDER NON-CONFORMANCE / UPDATE**

QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

| Work Order: _____  |      |      | DISPOSITION                                   |  |                                       | AGAINST DEPARTMENT/PROCESS                      |   |              |              |  |  |
|--|------|------|---|--|---------------------------------------|---|---|--------------|--------------|--|--|
|  |      |      | Rework<br><input type="checkbox"/>            | Skid-tube<br><input type="checkbox"/>  | Crosstube<br><input type="checkbox"/> | Water Jet<br><input type="checkbox"/>           | Engineering<br><input type="checkbox"/> |              |              |  |  |
|  |      |      | Scrap<br><input type="checkbox"/>             | Machining<br><input type="checkbox"/>  | Small Fab<br><input type="checkbox"/> | Prod. Eng. Coor.<br><input type="checkbox"/>    | Quality<br><input type="checkbox"/>     |              |              |  |  |
|  |      |      | Use-as-is<br><input type="checkbox"/>         | Thermoforming<br><input type="checkbox"/>  | Finishing<br><input type="checkbox"/> | Rec/Store/Packaging<br><input type="checkbox"/> | Other<br><input type="checkbox"/>       |              |              |  |  |
|  |      |      | Work Order Update<br><input type="checkbox"/> | Large Fab<br><input type="checkbox"/>  | Composite<br><input type="checkbox"/> | Supplier<br><input type="checkbox"/>            |   |              |              |  |  |
| Root Cause   | Date | Step | Qty   | Description of work order update or Non-conformance  | Initial Chief Eng                     | Action Description                              | Sign & Date                             | Verification | QC Inspector |  |  |
| Doc/Data   |      |      |   |  |                                       |   |   |              |              |  |  |
| Equip/Tooling  |      |      |   |  |                                       |   |   |              |              |  |  |
| Operator   |      |      |   |  |                                       |   |   |              |              |  |  |
| Material   |      |      |   |  |                                       |   |   |              |              |  |  |
| Setup  |      |      |   |  |                                       |   |   |              |              |  |  |
| Other  |      |      |   |  |                                       |   |   |              |              |  |  |
| Process  |      |      |   |  |                                       |   |   |              |              |  |  |
| Supplier   |      |      |   |  |                                       |   |   |              |              |  |  |
| Training   |      |      |   |  |                                       |   |   |              |              |  |  |
| Unapproved   |      |      |   |  |                                       |   |   |              |              |  |  |
| FAULT CATEGORY   |      |      |   |  |                                       |   |   |              |              |  |  |
| <b>Landing Gear</b><br><input type="checkbox"/> Bending<br><input type="checkbox"/> Centre Not Concentric to O/S<br><input type="checkbox"/> Cracks<br><input type="checkbox"/> Crushed/Crimped.<br><input type="checkbox"/> Cuffs<br><input type="checkbox"/> Heat Treat<br><input type="checkbox"/> Inspection Strip in Tube<br><input type="checkbox"/> Ripples in Bend<br><input type="checkbox"/> Torque Waves in Extrusion<br><input type="checkbox"/> Turning Sequence<br><input type="checkbox"/> Wave/Twist in Tube |      |      |   | <b>General</b><br><input type="checkbox"/> Bend<br><input type="checkbox"/> BOM/Route<br><input type="checkbox"/> Broken/Damaged<br><input type="checkbox"/> Burrs<br><input type="checkbox"/> Contamination<br><input type="checkbox"/> Countersink<br><input type="checkbox"/> Cut Too Short<br><input type="checkbox"/> Drill Holes<br><input type="checkbox"/> Drawing<br><input type="checkbox"/> Finish<br><input type="checkbox"/> Folio<br><input type="checkbox"/> Grain<br><input type="checkbox"/> Hardware<br><input type="checkbox"/> Inspection Incomplete<br><input type="checkbox"/> Instructions Incomplete/Unclear<br><input type="checkbox"/> Maintenance<br><input type="checkbox"/> Mislabeled<br><input type="checkbox"/> Misread<br><input type="checkbox"/> Offset<br><input type="checkbox"/> Out of Calibration<br><input type="checkbox"/> Out of Sequence<br><input type="checkbox"/> Outside Dimensions |                                       |   |   |              |              |  |  |
|  |      |      |   | <input type="checkbox"/> Ovalized<br><input type="checkbox"/> Over/Under tolerance<br><input type="checkbox"/> Part Incorrect<br><input type="checkbox"/> Part Lost/Missing<br><input type="checkbox"/> Part Moved<br><input type="checkbox"/> Positioned Wrong<br><input type="checkbox"/> Power Loss/Surge<br><hr/> <hr/> <hr/>  |                                       |   |   |              |              |  |  |
|  |      |      |   | <input type="checkbox"/> Pressure/Forced<br><input type="checkbox"/> Temperature/Cure<br><input type="checkbox"/> Weld<br><input type="checkbox"/> Wrong Stock Pulled<br><hr/>   |                                       |   |   |              |              |  |  |
|  |      |      |   | <input type="checkbox"/> Other   |                                       |   |   |              |              |  |  |

# Picklist Print

September-13-12 2:57:25 PM

Page 2

Work Order ID: 90205

Parent Item: D212-664-107

Parent Item Name: Crosstube Low Standard Fwd

D3595-063-450

RUBBER CUSHION

Manufactured

No

240

Each

175.8895

4

4

Start Date: 9/17/12

Required Date: 10/12/12

Start Qty: 1.00

Required Qty: 1.00

✓ 10/11/12

B# 90968

Location      Loc Qty      Loc Code

LG                    0.28

82511                0.28

LG051                135.5

80161                1.7

84715                2

87478                130

88916                1.8

LG055                30

88422                30

MAT052               10.109474

67353                2

68893                6

70113                0.56

71354                0.2

74113                0.349474

75597                1

MS21920-25

Clamp(per MIL-DTL-8783C)

Purchased

No

240

Each

89.0000

4

4

✓ 10/11/12

Location      Loc Qty      Loc Code

LG050                39

116264               2

117998               4

118142               4

119339               2

119746               2

120475               3

120920               22

LG051                50

122838               50

NCR: Yes / No

DQA: \_\_\_\_\_ Date: \_\_\_\_\_

**WORK ORDER NON-CONFORMANCE / UPDATE**

QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

| Work Order:  |      | DISPOSITION                        |                                   | AGAINST DEPARTMENT/PROCESS  |   |                                       |                                       |   |                                       |                                       |                                       |  |                                       |                                       |  |   |                                      |   |                                     |                                   |
|--|------|------------------------------------|-----------------------------------|---|---|---------------------------------------|---------------------------------------|---|---------------------------------------|---------------------------------------|---------------------------------------|--|---------------------------------------|---------------------------------------|--|---|--------------------------------------|---|-------------------------------------|-----------------------------------|
| Part No. _____<br>NCR No. _____  |      | Rework<br><input type="checkbox"/> | Scrap<br><input type="checkbox"/> | Use-as-is<br><input type="checkbox"/>   | Work Order Update<br><input type="checkbox"/> | Skid-tube<br><input type="checkbox"/> | Machining<br><input type="checkbox"/> | Thermoforming<br><input type="checkbox"/>   | Large Fab<br><input type="checkbox"/> | Crosstube<br><input type="checkbox"/> | Small Fab<br><input type="checkbox"/> | Finishing<br><input type="checkbox"/>  | Composite<br><input type="checkbox"/> | Water Jet<br><input type="checkbox"/> | Prod. Eng. Coor.<br><input type="checkbox"/> | Rec/Store/Packaging<br><input type="checkbox"/>   | Supplier<br><input type="checkbox"/> | Engineering<br><input type="checkbox"/> | Quality<br><input type="checkbox"/> | Other<br><input type="checkbox"/> |
| Root Cause   | Date | Step                               | Qty                               | Description of work order update or Non-conformance   |   | Initial Chief Eng                     | Action Description                    |   |                                       | Sign & Date                           | Verification                          |  | QC Inspector                          |                                       |  |   |                                      |   |                                     |                                   |
| Doc/Data   |      |                                    |                                   |   |   |                                       |                                       |   |                                       |                                       |                                       |  |                                       |                                       |  |   |                                      |   |                                     |                                   |
| Equip/Tooling  |      |                                    |                                   |   |   |                                       |                                       |   |                                       |                                       |                                       |  |                                       |                                       |  |   |                                      |   |                                     |                                   |
| Operator   |      |                                    |                                   |   |   |                                       |                                       |   |                                       |                                       |                                       |  |                                       |                                       |  |   |                                      |   |                                     |                                   |
| Material   |      |                                    |                                   |   |   |                                       |                                       |   |                                       |                                       |                                       |  |                                       |                                       |  |   |                                      |   |                                     |                                   |
| Setup  |      |                                    |                                   |   |   |                                       |                                       |   |                                       |                                       |                                       |  |                                       |                                       |  |   |                                      |   |                                     |                                   |
| Other  |      |                                    |                                   |   |   |                                       |                                       |   |                                       |                                       |                                       |  |                                       |                                       |  |   |                                      |   |                                     |                                   |
| Process  |      |                                    |                                   |   |   |                                       |                                       |   |                                       |                                       |                                       |  |                                       |                                       |  |   |                                      |   |                                     |                                   |
| Supplier   |      |                                    |                                   |   |   |                                       |                                       |   |                                       |                                       |                                       |  |                                       |                                       |  |   |                                      |   |                                     |                                   |
| Training   |      |                                    |                                   |   |   |                                       |                                       |   |                                       |                                       |                                       |  |                                       |                                       |  |   |                                      |   |                                     |                                   |
| Unapproved   |      |                                    |                                   |   |   |                                       |                                       |   |                                       |                                       |                                       |  |                                       |                                       |  |   |                                      |   |                                     |                                   |
| FAULT CATEGORY   |      |                                    |                                   |   |   |                                       |                                       |   |                                       |                                       |                                       |  |                                       |                                       |  |   |                                      |   |                                     |                                   |
| <b>Landing Gear</b><br><input type="checkbox"/> Bending<br><input type="checkbox"/> Centre Not Concentric to O/S<br><input type="checkbox"/> Cracks<br><input type="checkbox"/> Crushed/Crimped.<br><input type="checkbox"/> Cuffs<br><input type="checkbox"/> Heat Treat<br><input type="checkbox"/> Inspection Strip in Tube<br><input type="checkbox"/> Ripples in Bend<br><input type="checkbox"/> Torque Waves in Extrusion<br><input type="checkbox"/> Turning Sequence<br><input type="checkbox"/> Wave/Twist in Tube |      |                                    |                                   | <b>General</b><br><input type="checkbox"/> Bend<br><input type="checkbox"/> BOM/Route<br><input type="checkbox"/> Broken/Damaged<br><input type="checkbox"/> Burrs<br><input type="checkbox"/> Contamination<br><input type="checkbox"/> Countersink<br><input type="checkbox"/> Cut Too Short<br><input type="checkbox"/> Drill Holes<br><input type="checkbox"/> Drawing<br><input type="checkbox"/> Finish<br><input type="checkbox"/> Folio |   |                                       |                                       | <input type="checkbox"/> Grain<br><input type="checkbox"/> Hardware<br><input type="checkbox"/> Inspection Incomplete<br><input type="checkbox"/> Instructions Incomplete/Unclear<br><input type="checkbox"/> Maintenance<br><input type="checkbox"/> Mislabeled<br><input type="checkbox"/> Misread<br><input type="checkbox"/> Offset<br><input type="checkbox"/> Out of Calibration<br><input type="checkbox"/> Out of Sequence<br><input type="checkbox"/> Outside Dimensions |                                       |                                       |                                       | <input type="checkbox"/> Ovalized<br><input type="checkbox"/> Over/Under tolerance<br><input type="checkbox"/> Part Incorrect<br><input type="checkbox"/> Part Lost/Missing<br><input type="checkbox"/> Part Moved<br><input type="checkbox"/> Positioned Wrong<br><input type="checkbox"/> Power Loss/Surge |                                       |                                       |  | <input type="checkbox"/> Pressure/Forced<br><input type="checkbox"/> Temperature/Cure<br><input type="checkbox"/> Weld<br><input type="checkbox"/> Wrong Stock Pulled |                                      |   |                                     |                                   |

# Picklist Print

September-13-12 2:57:25 PM

Page 3

Work Order ID: 90205

Parent Item: D212-664-107

Parent Item Name: Crosstube Low Standard Fwd

Start Date: 9/17/12

Required Date: 10/12/12

Start Qty: 1.00

Required Qty: 1.00

D2893-1

Manufactured No

240 Each 47.0000

2

2.75 Support

2

W 12.11.12

| <u>Location</u> | <u>Loc Qty</u> | <u>Loc Code</u> |
|-----------------|----------------|-----------------|
| LG052           | 47             |                 |
| 72865           | 2              |                 |
| <u>87289</u>    | 24             |                 |
| 88702           | 1              |                 |
| 89624           | 20             |                 |

D3428-1

Manufactured No

260 Each 5.0000

1

Placard

1

93485 C

| <u>Location</u> | <u>Loc Qty</u> | <u>Loc Code</u> |
|-----------------|----------------|-----------------|
| ST042           | 5              |                 |
| 85228           | 5              |                 |

ANG-36A

Bolt

Purchased No

260 Each 105.0000

4

4

12/14/10

| <u>Location</u> | <u>Loc Qty</u> | <u>Loc Code</u> |
|-----------------|----------------|-----------------|
| ST340           | 95             |                 |
| 122416          | 45             |                 |
| 122993          | 50             |                 |
| ST342           | 10             |                 |
| 118422          | 2              |                 |
| 119449          | 1              |                 |
| 120187          | 4              |                 |
| 120423          | 3              |                 |

4

3

122993

NCR: Yes / No

DQA: \_\_\_\_\_ Date: \_\_\_\_\_

## **WORK ORDER NON-CONFORMANCE / UPDATE**

QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

| Work Order: _____            |                |         | DISPOSITION                                       |  |  | AGAINST DEPARTMENT/PROCESS                                       |                                 |              |                      |                    |  |
|------------------------------|----------------|---------|---|--|--|--|---------------------------------|--------------|----------------------|--------------------|--|
|                              |                |         | Rework<br>Scrap<br>Use-as-is<br>Work Order Update | Skid-tube<br>Machining<br>Thermoforming<br>Large Fab | Crosstube<br>Small Fab<br>Finishing<br>Composite | Water Jet<br>Prod. Eng. Coor.<br>Rec/Store/Packaging<br>Supplier | Engineering<br>Quality<br>Other |              |                      |                    |  |
| Part No. _____               |                |         |   |  |  |  |                                 |              |                      |                    |  |
| NCR No. _____                |                |         |   |  |  |  |                                 |              |                      |                    |  |
| Root Cause                   | Date           | Step    | Qty   | Description of work order update or Non-conformance  | Initial Chief Eng                                | Action Description   | Sign & Date                     | Verification | QC Inspector         |                    |  |
| Doc/Data                     |                |         |   |  |  |  |                                 |              |                      |                    |  |
| Equip/Tooling                |                |         |   |  |  |  |                                 |              |                      |                    |  |
| Operator                     |                |         |   |  |  |  |                                 |              |                      |                    |  |
| Material                     |                |         |   |  |  |  |                                 |              |                      |                    |  |
| Setup                        |                |         |   |  |  |  |                                 |              |                      |                    |  |
| Other                        |                |         |   |  |  |  |                                 |              |                      |                    |  |
| Process                      |                |         |   |  |  |  |                                 |              |                      |                    |  |
| Supplier                     |                |         |   |  |  |  |                                 |              |                      |                    |  |
| Training                     |                |         |   |  |  |  |                                 |              |                      |                    |  |
| Unapproved                   |                |         |   |  |  |  |                                 |              |                      |                    |  |
| FAULT CATEGORY               |                |         |   |  |  |  |                                 |              |                      |                    |  |
| Landing Gear                 |                |         |   | General  |  |  |                                 |              |                      |                    |  |
| Bending                      | General        |         |   | Grain  | General  |  |                                 | Ovalized     | Pressure/Forced      |                    |  |
| Centre Not Concentric to O/S | Bend           | General |   |  | Hardware   | General  |                                 |              | Over/Under tolerance | Temperature/Cure   |  |
| Cracks                       | BOM/Route      | General |   |  | Inspection Incomplete                            | General  |                                 |              | Part Incorrect       | Weld               |  |
| Crushed/Crimped.             | Broken/Damaged | General |   |  | Instructions Incomplete/Unclear                  | General  |                                 |              | Part Lost/Missing    | Wrong Stock Pulled |  |
| Cuffs                        | Burrs          | General |   |  | Maintenance                                      | General  |                                 |              | Part Moved           |                    |  |
| Heat Treat                   | Contamination  | General |   |  | Mislabeled                                       | General  |                                 |              | Positioned Wrong     |                    |  |
| Inspection Strip in Tube     | Countersink    | General |   |  | Misread  | General  |                                 |              | Power Loss/Surge     |                    |  |
| Ripples in Bend              | Cut Too Short  | General |   |  | Offset   | General  |                                 |              |                      |                    |  |
| Torque Waves in Extrusion    | Drill Holes    | General |   |  | Out of Calibration                               | General  |                                 |              |                      |                    |  |
| Turning Sequence             | Drawing        | General |   |  | Out of Sequence                                  | General  |                                 |              |                      |                    |  |
| Wave/Twist in Tube           | Finish         | General |   |  | Outside Dimensions                               | General  |                                 |              |                      |                    |  |
|                              | Folio          | General |   |  |  | General  |                                 |              |                      |                    |  |

# Picklist Print

September-13-12 2:57:25 PM

Page 4

Work Order ID: 90205

Parent Item: D212-664-107

Parent Item Name: Crosstube Low Standard Fwd

MS21042E6

Nut

Purchased

No

260

Each

777.0000

6

6

Start Date: 9/17/12

Start Qty: 1.00

Required Date: 10/12/12

Required Qty: 1.00

Smb  
27

| Location | Loc Qty | Loc Code |
|----------|---------|----------|
| 314      | 486     | 122441   |
|          | 486     |          |
| ST300    | 291     |          |
|          | 25      |          |
| 117677   | 3       |          |
| 118384   | 48      |          |
| 118927   | 15      |          |
| 119075   | 200     |          |
| 120308   |         |          |

AN960JD616

Washer

NAS1149D0663J

Purchased

No

260

Each

0.0000

18

18

18

M123265 10/14/12

Smb  
X

NCR: Yes / No

DQA: \_\_\_\_\_ Date: \_\_\_\_\_

**WORK ORDER NON-CONFORMANCE / UPDATE**

QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

| Work Order: _____  |      |      | DISPOSITION                                |  |                                    | AGAINST DEPARTMENT/PROCESS                   |                                      |              |              |   |  |  |  |
|--|------|------|--|--|------------------------------------|--|--------------------------------------|--------------|--------------|---|--|--|--|
|  |      |      | Rework <input type="checkbox"/>            | Skid-tube <input type="checkbox"/>   | Crosstube <input type="checkbox"/> | Water Jet <input type="checkbox"/>           | Engineering <input type="checkbox"/> |              |              |   |  |  |  |
|  |      |      | Scrap <input type="checkbox"/>             | Machining <input type="checkbox"/>   | Small Fab <input type="checkbox"/> | Prod. Eng. Coor. <input type="checkbox"/>    | Quality <input type="checkbox"/>     |              |              |   |  |  |  |
|  |      |      | Use-as-is <input type="checkbox"/>         | Thermoforming <input type="checkbox"/>   | Finishing <input type="checkbox"/> | Rec/Store/Packaging <input type="checkbox"/> | Other <input type="checkbox"/>       |              |              |   |  |  |  |
|  |      |      | Work Order Update <input type="checkbox"/> | Large Fab <input type="checkbox"/>   | Composite <input type="checkbox"/> | Supplier <input type="checkbox"/>            |                                      |              |              |   |  |  |  |
| Root Cause   | Date | Step | Qty  | Description of work order update or Non-conformance  | Initial Chief Eng                  | Action Description                           | Sign & Date                          | Verification | QC Inspector |   |  |  |  |
| Doc/Data   |      |      |  |  |                                    |  |                                      |              |              |   |  |  |  |
| Equip/Tooling  |      |      |  |  |                                    |  |                                      |              |              |   |  |  |  |
| Operator   |      |      |  |  |                                    |  |                                      |              |              |   |  |  |  |
| Material   |      |      |  |  |                                    |  |                                      |              |              |   |  |  |  |
| Setup  |      |      |  |  |                                    |  |                                      |              |              |   |  |  |  |
| Other  |      |      |  |  |                                    |  |                                      |              |              |   |  |  |  |
| Process  |      |      |  |  |                                    |  |                                      |              |              |   |  |  |  |
| Supplier   |      |      |  |  |                                    |  |                                      |              |              |   |  |  |  |
| Training   |      |      |  |  |                                    |  |                                      |              |              |   |  |  |  |
| Unapproved   |      |      |  |  |                                    |  |                                      |              |              |   |  |  |  |
| FAULT CATEGORY   |      |      |  |  |                                    |  |                                      |              |              |   |  |  |  |
| <b>Landing Gear</b><br><input type="checkbox"/> Bending<br><input type="checkbox"/> Centre Not Concentric to O/S<br><input type="checkbox"/> Cracks<br><input type="checkbox"/> Crushed/Crimped.<br><input type="checkbox"/> Cuffs<br><input type="checkbox"/> Heat Treat<br><input type="checkbox"/> Inspection Strip in Tube<br><input type="checkbox"/> Ripples in Bend<br><input type="checkbox"/> Torque Waves in Extrusion<br><input type="checkbox"/> Turning Sequence<br><input type="checkbox"/> Wave/Twist in Tube |      |      |  | <b>General</b><br><input type="checkbox"/> Bend<br><input type="checkbox"/> BOM/Route<br><input type="checkbox"/> Broken/Damaged<br><input type="checkbox"/> Burrs<br><input type="checkbox"/> Contamination<br><input type="checkbox"/> Countersink<br><input type="checkbox"/> Cut Too Short<br><input type="checkbox"/> Drill Holes<br><input type="checkbox"/> Drawing<br><input type="checkbox"/> Finish<br><input type="checkbox"/> Folio<br><input type="checkbox"/> Grain<br><input type="checkbox"/> Hardware<br><input type="checkbox"/> Inspection Incomplete<br><input type="checkbox"/> Instructions Incomplete/Unclear<br><input type="checkbox"/> Maintenance<br><input type="checkbox"/> Mislabeled<br><input type="checkbox"/> Misread<br><input type="checkbox"/> Offset<br><input type="checkbox"/> Out of Calibration<br><input type="checkbox"/> Out of Sequence<br><input type="checkbox"/> Outside Dimensions |                                    |  |                                      |              |              | <input type="checkbox"/> Ovalized<br><input type="checkbox"/> Over/Under tolerance<br><input type="checkbox"/> Part Incorrect<br><input type="checkbox"/> Part Lost/Missing<br><input type="checkbox"/> Part Moved<br><input type="checkbox"/> Positioned Wrong<br><input type="checkbox"/> Power Loss/Surge<br><hr/> <input type="checkbox"/> Pressure/Forced<br><input type="checkbox"/> Temperature/Cure<br><input type="checkbox"/> Weld<br><input type="checkbox"/> Wrong Stock Pulled<br><hr/> <input type="checkbox"/> Other |  |  |  |

DART AEROSPACE LTD

Work Order:

90205

Description: Crosstube Low Fwd (205/212/412)

Part Number:

D212-664-107

Inspection Dwg: D212-664-147

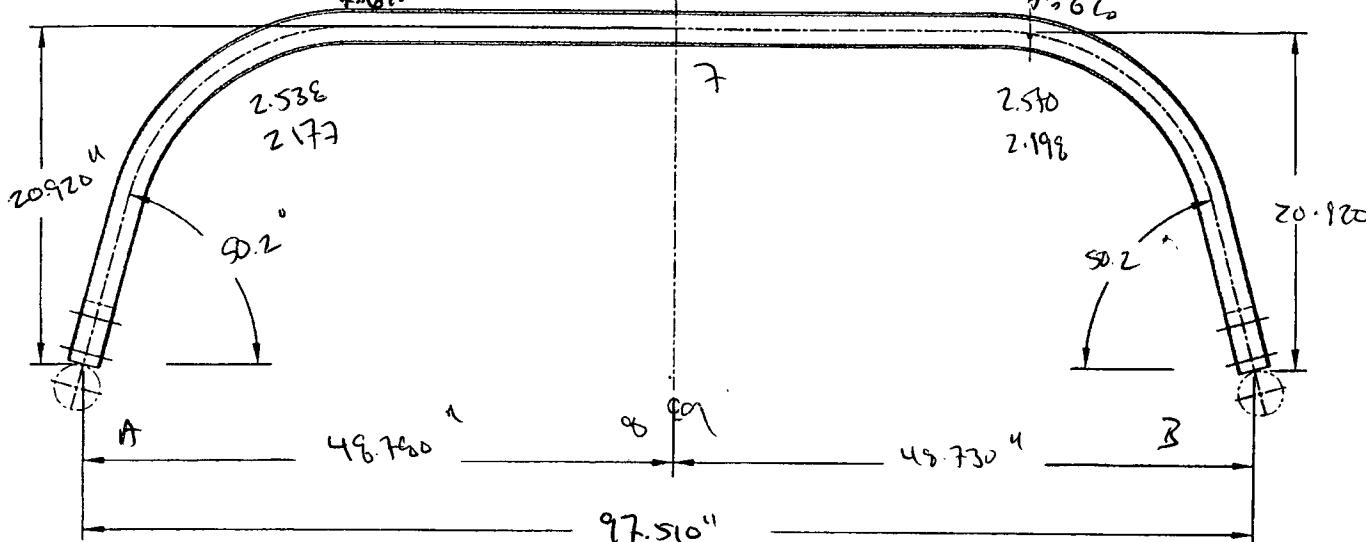
Rev: B

Page 1 of 1

| Required Dimension | Min   | Max      |
|--------------------|-------|----------|
| Height             | 20.79 | 21.05    |
| 1/2 Span           | 48.55 | 48.81    |
| Angle              | 49    | 52       |
| Total Span         | 97.1  | 97.62    |
| Bending Passes     | 8     | --       |
| Crushing           | --    | 6% / 10% |

$$\frac{361}{7.67} = 4.715$$

$$\frac{372}{7.82} = 4.768$$



|                                    | Side A | middle | Side B |
|------------------------------------|--------|--------|--------|
| Bending Passes                     | 8      | 7      | 9      |
| Crushing                           | 7.67   | 7.82   |        |
| <b>Comments</b>                    |        |        |        |
| Side A 2 7.67 crushing @ 8 passes. |        |        |        |
| Middle 2 7 passes.                 |        |        |        |
| Side B 2 7.82 crushing @ 9 passes. |        |        |        |

|                 |            |
|-----------------|------------|
| QC15 Inspection | DAS        |
| Date            | 16/11/2016 |

| Rev | Date     | Change                             | Revised by | Approved |
|-----|----------|------------------------------------|------------|----------|
| A   | 08.02.29 | New Issue                          | KJ/JM      |          |
| B   | 10.01.21 | Dwg Rev updated                    | KJ         |          |
| C   | 12.04.16 | Added bending, crushing dimensions | KJ         | AP       |

B

| Item | Qty  | Qty   | Part Number       | Description  |
|------|------|-------|-------------------|--|
|      | -147 | -147B |                   |  |
| 1    | X    |       | D212-664-147      | CROSSTUBE ASSEMBLY (205/212/412 LOW FWD)   |
| 2    |      | X     | D212-664-147B     | CROSSTUBE ASSEMBLY (214 LOW FWD)   |
| 3    | 1    | 1     | D6019-128         | CROSSTUBE  |
| 4    | 2    | 2     | D2893-1           | SUPPORT  |
| 5    | 4    | 4     | D3595-063-450     | RUBBER CUSHION   |
| 6    | 2    | 2     | D3659-1           | CUFF   |
| 7    | 4    | 4     | MS21920-25        | CLAMP (OR MS21920-26)  |
| 8    | 44   | 44    | CR32124-06        | RIVET (OR M7885/3-4-06)  |
| 9    | A/R  | A/R   | MAGNOBOND 6398    | ROCKWELL SPECIFICATION RBO-120-023 ADHESIVE<br>(TEXTRON/BELL SPEC 299-947-100, TYPE II, CLASS 2<br>ADHESIVE) |
| 10   | A/R  | A/R   | SIKAFLEX-241/-291 | SEALANT (OR PROSEAL 890 OR MIL-S-8802 CLASS<br>B2 SEALANT)   |

**GENERAL NOTES:**

- 1) MATERIAL MANUFACTURED FROM D6019-128  
FINISHED LENGTH = 126.528±0.020 (BEFORE BENDING/TRIMMING)
- 2) FINISH. CHEMICAL CONVERSION COAT PER DART QSI 005 4 1  
PRIME INSIDE AND OUTSIDE PER DART QSI 005 4 2  
PAINT OUTSIDE PER DART QSI 005 4 2
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS INCHES UNLESS OTHERWISE NOTED.
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION SCRIBE DART PART NUMBER "D212-664-XXX" AND BATCH NUMBER ON INSIDE OF CUFF  
USING VIBRATING STYLUS.
- 7) WEIGHT: D212-664-147 = 24.2 lbs (PER IIN-D212-664)  
D212-664-147B = 24.2 lbs (PER IIN-D212-664)
- 8) PART IS SYMMETRIC ABOUT CENTERLINE.
- 9) WHEN MACHINING TAPER, RUN CUTTER OFF PART BLEND OUT EDGE LONGITUDINALLY, TRANSITION SHOULD BE SMOOTH
- 10) BEND PROGRESSIVELY WITH A MINIMUM OF 8 PASSES. MAXIMUM TUBE FLATTENING DUE TO BENDING IS 6% BASED ON O.D., EXCEPT UP TO 10% IS ALLOWED IN AREA NOTED.
- 11) LIQUID PENETRANT INSPECT OUTSIDE SURFACE OF CROSSTUBE PER QSI 038
- 12) INSTALL D2893-1 SUPPORT USING 0.03" TO 0.06" THICK LAYER OF MAGNOBOND 6398 TO THE SURFACE OF D2893-1 THAT WILL BE IN CONTACT WITH THE CROSSTUBE PER QSI 015. LET CURE FOR 12 HOURS AFTER INSTALLATION AND PRIOR TO PACKAGING.
- 13) INSTALL MS21920-25 CLAMPS (OR -26) WITH D3595-063-450 RUBBER CUSHIONS TO SECURE THE D2893-1 SUPPORT ON TOP SIDE OF THE CROSSTUBE. ENSURE CLAMPS ARE OPPOSITE OF CROSSTUBE SUPPORT.
- 14) EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS SCRATCHES, NICKS, OR DENTS DEFECTS UP TO 0.005" MAY BE BLENDED OUT LONGITUDINALLY. CIRCUMFERENTIAL GRIND MARKS ARE UNACCEPTABLE.
- 15) TORQUE CLAMPS 80 TO 100 IN-LB. ENSURE AT LEAST 1.5 THREADS SHOWING IN SAFETY AND THAT NUT HAS NOT BOTTOMED-OUT AFTER TORQUING.
- 16) INSTALL D3659-1 CUFF AFTER CHEMICAL CONVERSION COAT BUT BEFORE PAINT, WITH A LAYER OF SIKAFLEX-241/-291 OR PROSEAL 890 OR MIL-S-8802 CLASS B2 SEALANT BETWEEN CUFF AND CROSSTUBE SEAL EDGE OF CUFF TO ENSURE NO GAPS.
- 17) TOUCH-UP HOLES WITH CHEMICAL CONVERSION COAT.

SHOP DRAW

RETURN TO

ENGINEERING

UNCONTROLLED

SUBJECT TO CHANGE

WITHOUT NOTICE

WHICH EVER OCCURS

NO. 90205 MCJ

12-09-17

**DEO ATTACHED**

Per Eqn #11.6.1F

11.07.26

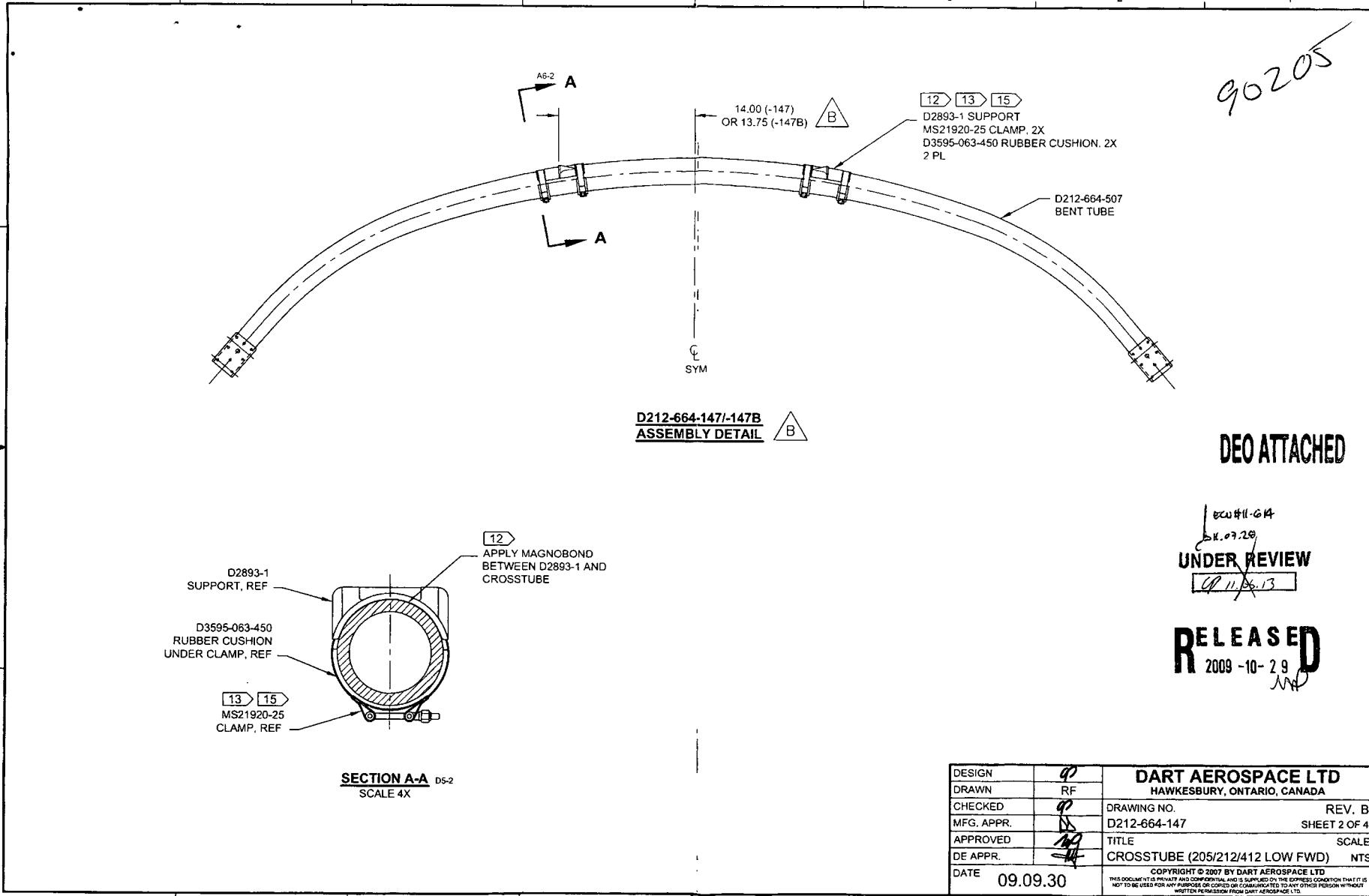
**UNDER REVIEW**

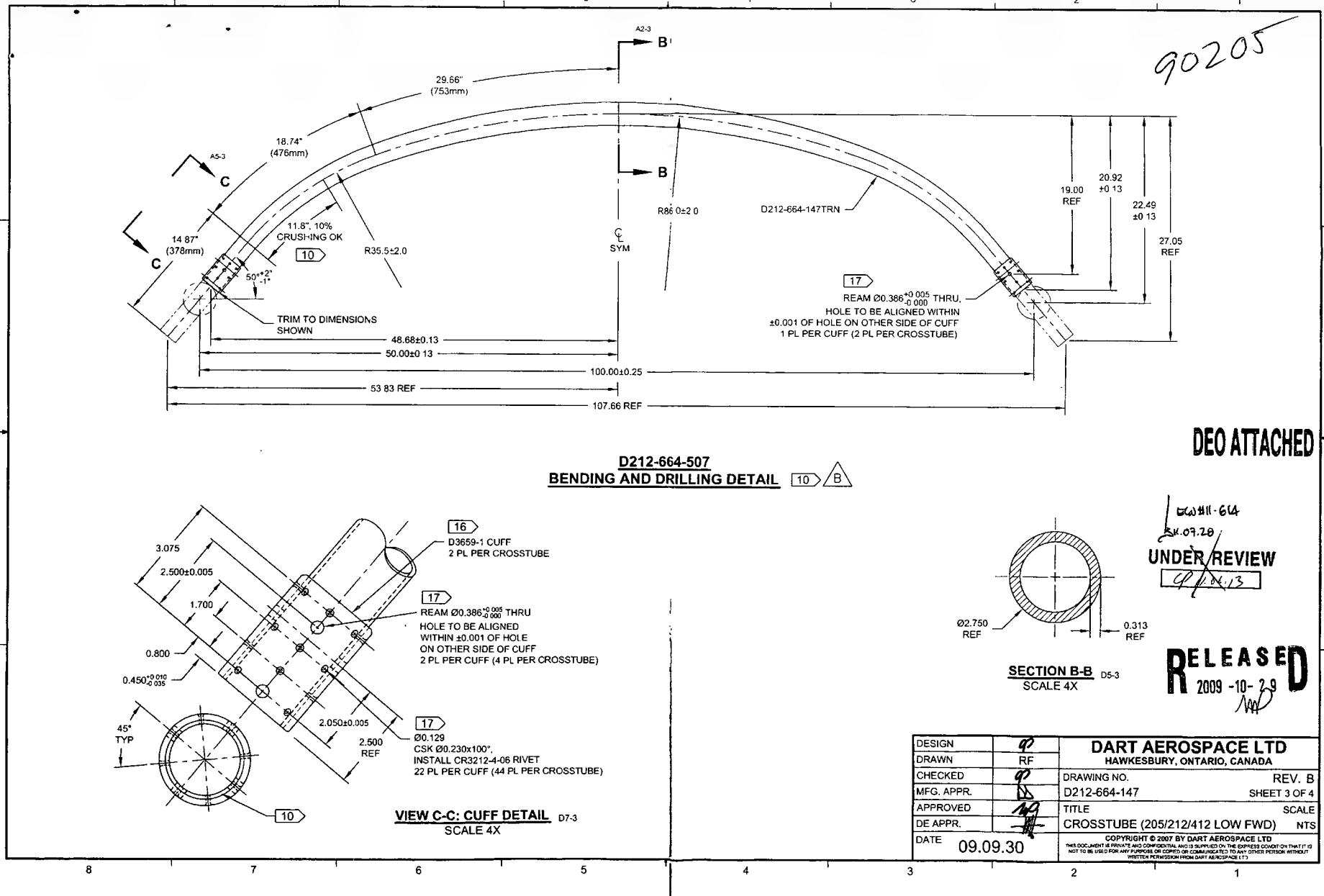
Q1148.13

**RELEASED**

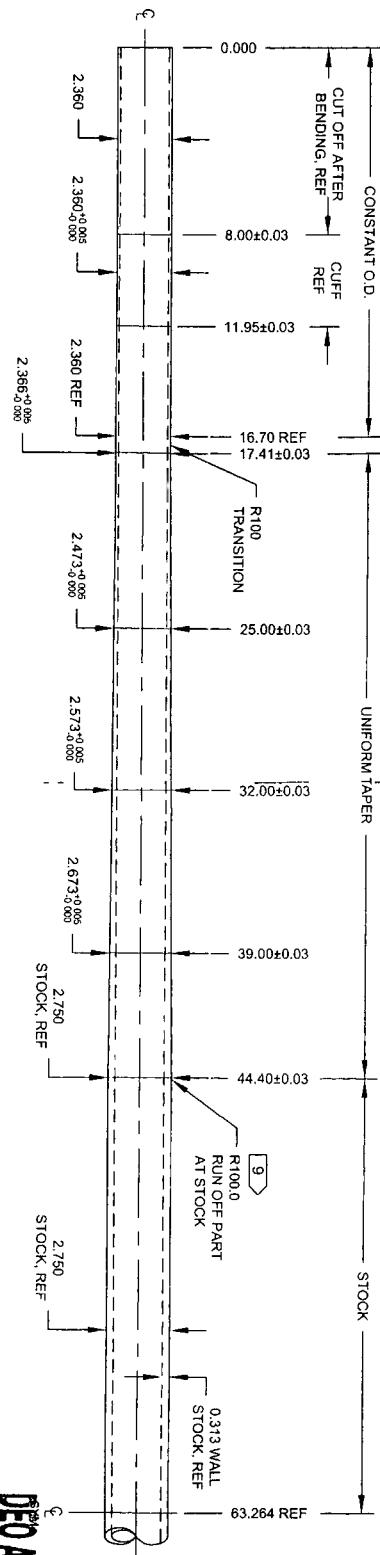
2009-10-29

|            |  |   |              |
|------------|--|---|--------------|
| B          | REVISE GENERAL NOTES/PART LIST; UPDATE TO CURRENT STANDARDS; ADD -147B (ZN C4-2, D4-2) | RF  | 09.09.30     |
| A          | NEW ISSUE  | CP  | 07.07.07     |
| REV.       | DESCRIPTION  | BY  | DATE         |
| DESIGN     | Q  | <b>DART AEROSPACE LTD</b><br>HAWKESBURY, ONTARIO, CANADA  |              |
| DRAWN      | RF   |   |              |
| CHECKED    | Q  | DRAWING NO.   | REV. B       |
| MFG. APPR. | XX   | D212-664-147  | SHEET 1 OF 4 |
| APPROVED   | MM   | TITLE   | SCALE        |
| DE APPR.   | MM   | CROSSTUBE (205/212/412 LOW FWD)   | NTS          |
| DATE       | 09.09.30   | COPYRIGHT © 2007 BY DART AEROSPACE LTD.<br>THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COMMUNICATED OR PROVIDED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD. |              |





90205



D212-664-147TRN  
TURNING DETAIL

ECN # K-64  
11.09.26  
RE-465/3

~~NOT ATTACHED~~

UNDER REVIEW

RELEASED  
R 2009-10-29

11.09.26  
RE-465/3

A

B

C

D

|            |          |   |              |
|------------|----------|---|--------------|
| DESIGN     |          | DART AEROSPACE LTD  |              |
| DRAWN      | RF       | HAWKESBURY, ONTARIO, CANADA   |              |
| CHECKED    |          | DRAWING NO.   | REV. B       |
| MFG. APPR. |          | D212-664-147  | SHEET 4 OF 4 |
| APPROVED   |          | TITLE   | SCALE        |
| DE APPR.   |          | CROSSTUBE (205/212/112 LOW FWD)   | NTS          |
| DATE       | 09.09.30 | NOT FOR QUOTATION, APPROVAL OR CONTRACTUAL USE. DRAFT COPY. THIS DRAWING IS THE PROPERTY OF DART AEROSPACE LTD. IT IS TO BE KEPT CONFIDENTIAL AND NOT COPIED OR DISSEMINATED WITHOUT THE EXPRESS WRITTEN CONSENT OF DART AEROSPACE LTD. |              |

B

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90205

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|-----------------------------|--|----------------------|---|--------------------------------|---------------------------|--------------|
| DRAWING NO.<br>D212-664-147 | TITLE<br>CROSSTUBE ASS'Y (205 LOW FWD) | REV. B               | DART AEROSPACE LTD<br>ENGINEERING ORDER | D.E.O. NO.<br>D212-664-147-B-1 | SHEET NO.<br>SHEET 1 OF 1 | SCALE<br>NTS |
| DRAWN <i>qp</i>             | CHECKED <i>ASS</i>                     | MFG. APPR. <i>BS</i> | APPROVED <i>JW</i>                      | DE APPR. <i>MM</i>             |                           |              |
| DATE 11.07.15               | DATE 11.07.20                          | DATE 11.07.21        | DATE 11.07.21                           | DATE 11.07.21                  | DATE 11.07.21             |              |

**PURPOSE:**

REPLACE MAGNOBOND WITH PROSEAL.

**CHANGE:****IS:**

| Item | Qty -147 | Qty -147B | Part Number     | Description                   |
|------|----------|-----------|-----------------|-------------------------------|
| 9    | A/R      | A/R       | PROSEAL 890 B-2 | SEALANT, AMS-S-8802 CLASS B-2 |

**WAS:**

|   |     |     |                |   |
|---|-----|-----|----------------|---|
| 9 | A/R | A/R | MAGNOBOND 6398 | ROCKWELL SPECIFICATION RBO-120-023<br>ADHESIVE (TEXTRON/BELL SPEC. 299-947-100,<br>TYPE II, CLASS 2 ADHESIVE) |
|---|-----|-----|----------------|---|

NOTE 12 &amp; 15, SHEET 1 IS AMENDED AS FOLLOWS:

**IS:**

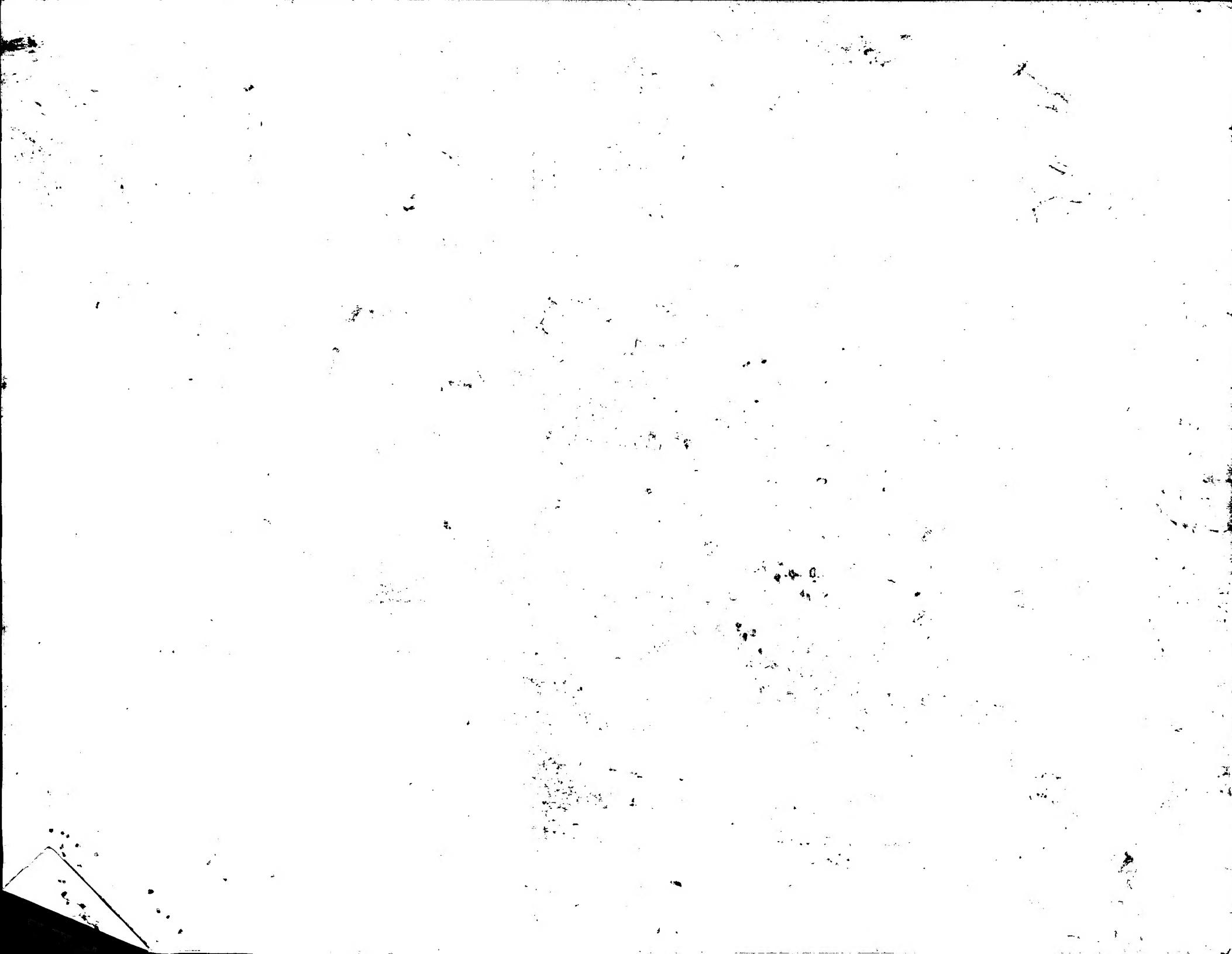
12) TO INSTALL D2893-1 SUPPORT: ABRADE MATING SURFACE OF SUPPORT AND CROSSTUBE WITH 180-GRT SANDPAPER AND REMOVE RESIDUE WITH MEK (OR EQUIVALENT). APPLY A 0.04" TO 0.07" THICK LAYER OF PROSEAL 890 CLASS B-2 (OR AMS-S-8802 CLASS B-2) SEALANT TO MATING SURFACE OF SUPPORT.

15) TORQUE CLAMPS 80 TO 100 IN-LB. ENSURE AT LEAST 1.5 THREADS SHOWING IN SAFETY AND THAT NUT HAS NOT BOTTOMED-OUT AFTER TORQUING. PRIOR TO PACKAGING, RE-CHECK TORQUE ON CLAMPS AFTER PROSEAL 890 SEALANT HAS CURED FOR 72 HOURS.

**WAS:**

12) INSTALL D2893-1 SUPPORT USING 0.03" TO 0.06" THICK LAYER OF MAGNOBOND 6398 TO THE SURFACE OF D2893-1 THAT WILL BE IN CONTACT WITH THE CROSSTUBE PER QSI 015. LET CURE FOR 12 HOURS AFTER INSTALLATION AND PRIOR TO PACKAGING.

15) TORQUE CLAMPS 80 TO 100 IN-LB. ENSURE AT LEAST 1.5 THREADS SHOWING IN SAFETY AND THAT NUT HAS NOT BOTTOMED-OUT AFTER TORQUING.





**ACUREN**

## **LIQUID PENETRANT TEST REPORT**

P- 12683

|                  |                                    |                |                  |
|------------------|------------------------------------|----------------|------------------|
| CLIENT           | DETROIT<br>ANDY                    | DATE           | NOV 12, 2008     |
| ATTENTION        |                                    | ACUREN JOB NO. | 188-12-CO 395    |
| ADDRESS          | 1270 ABERDEEN<br>HAWKES BULLY, ON. | PO/WO NO.      | 18365 -          |
| PROJECT          | F.P.I. ON CROSS TUBES              | WORK LOCATION  | SAME             |
| ITEM(S) EXAMINED |                                    | ACCEPTANCE STD | ASME 1417/05-038 |
|                  |                                    | REV./DATE      | 2005             |

| TEST DETAILS      |   | <input checked="" type="checkbox"/> FLUORESCENT | <input type="checkbox"/> VISIBLE | <input checked="" type="checkbox"/> WATER WASH | <input type="checkbox"/> SOLVENT REMOVABLE                     | <input type="checkbox"/> POST EMULSIFIED           |
|-------------------|---|---|----------------------------------|--|--|--|
| METHOD            |   |   |                                  | BLACK LIGHT S/N 16959                          | <input type="checkbox"/> OUTPUT > 1000 $\mu$ W/CM <sup>2</sup> | <input type="checkbox"/> AMBIENT < 2 fc            |
| FAMILY BRAND      | MAGNAFLUX                                       |   |                                  | LIGHTING EQUIP.                                | <input type="checkbox"/> FLASHLIGHT                            | <input type="checkbox"/> TROUBLELIGHT              |
| PENETRANT         | 2607  | MINIMUM DWELL TIME                              | 45:30                            | MIN.   | <input type="checkbox"/>                                       | <input type="checkbox"/> OUTPUT > 100 fc @ SURFACE |
| PENETRANT REMOVER | 420   | MINIMUM DRY TIME                                | >10                              | MIN.   | OTHER LABINO   |  |
| DEVELOPER         | SKD 52  | MINIMUM DWELL TIME                              | 10                               | MIN.   | LIGHT METER S/N 1098866  | CAL DUE DATE Nov 12<br>2012                        |
| DEVELOPER TYPE    | <input checked="" type="checkbox"/> NON AQUEOUS | <input type="checkbox"/> AQUEOUS                | <input type="checkbox"/> DRY     |  |  |  |

**TEST SURFACE**

|                     |                                       |  |   |                                       |  |
|---------------------|---------------------------------------|--|---|---------------------------------------|--|
| SURFACE CONDITION   | <input type="checkbox"/> AS GROUND    | <input type="checkbox"/> AS WELDED               | <input checked="" type="checkbox"/> MACHINED                | <input type="checkbox"/> SHOT BLASTED | <input checked="" type="checkbox"/> CLEAN BARE METAL |
| SURFACE TEMPERATURE | <input type="checkbox"/> < -4°C/ 20°F | <input type="checkbox"/> -4°C/ 20°F TO 10°C/50°F | <input checked="" type="checkbox"/> 10°C/50°F TO 52°C/125°F | <input type="checkbox"/> > 52°C/125°F |  |

| RESULTS- |                        | <input type="checkbox"/> METRIC | <input type="checkbox"/> IMPERIAL |
|----------|------------------------|---------------------------------|-----------------------------------|
| ITEM     | COMMENTS               | ACCEPT                          | REJECT                            |
| 1        | CLOSED SUES - W. 90205 | ✓                               |                                   |
| 1        | " " 89392              | ✓                               |                                   |
| 1        | " " 77283              | ✓                               |                                   |
| 1        | " " 86936              | ✓                               |                                   |
| 1        | " " 92476              | /                               |                                   |
| 1        | " " 92475              | /                               |                                   |
| 1        | " " 62040              | /                               |                                   |

11/12/08

**Scope of Services**  
The agreement of Acuren Group Inc. to perform services extends only to those services provided for in writing. Under no circumstances shall such services extend beyond the performance of the requested services. It is expressly understood that all descriptions, comments and expressions of opinion reflect the opinions or observations of Acuren Group Inc. based on information and assumptions supplied by the owner/operator and are not intended nor can they be construed as representations or warranties. Acuren Group Inc. is not assuming any responsibilities of the owner/operator and the owner/operator retains complete responsibility for the engineering, manufacture, repair and use decisions as a result of the representations or warranties.

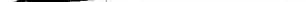
**Standard of Care**  
In performing the services provided, Acuren Group Inc. uses the degree, care and skill ordinarily exercised under similar circumstances by others performing such services in the same or similar locality. No other warranty, expressed or implied, is made.

## SIGNATURES

CLIENT REPRESENTATIVE Andy Sheldon  
PRINT

Ashdon

DTR # E-120255

TECHNICIAN (SIGNATURE): 

REPORT  
REVIEWED BY:

NAME (PRINT): Lee Thorpe

Abdullah  
SIGNATURE  
  
\_\_\_\_\_

ME

**INITIALS**

## 5.2 STANDARD GEAR CROSSTUBES

| Item | -107 | -207 | -209 | Part Number     | Description  |
|------|------|------|------|-----------------|--|
|      | X    |      |      | D212-664-107    | CROSSTUBE INSTALLATION,<br>204/205/210/212/214/412, UH-1H, UH-1A/B/E/F/L/P,<br>TH-1F/L, HH-1K STANDARD FWD |
|      |      | X    |      | D212-664-207    | CROSSTUBE INSTALLATION,<br>204/205/210/212/214, UH-1H, UH-1A/B/E/F/L/P,<br>TH-1F/L, HH-1K STANDARD AFT     |
|      |      |      | X    | D412-664-209    | CROSSTUBE INSTALLATION,<br>412 STANDARD AFT  |
| 6    | 1    |      |      | D212-664-147    | CROSSTUBE ASSEMBLY,<br>204/205/210/212/214/412, UH-1H, UH-1A/B/E/F/L/P,<br>TH-1F/L, HH-1K STANDARD FWD     |
| 7    |      | 1    |      | D212-664-247    | CROSSTUBE ASSEMBLY,<br>204/205/210/212/214, UH-1H, UH-1A/B/E/F/L/P,<br>TH-1F/L, HH-1K STANDARD AFT         |
| 8    |      |      | 1    | D412-664-249    | CROSSTUBE ASSEMBLY,<br>412 STANDARD AFT  |
| 10   | 2    |      |      | * D2893-1       | SUPPORT  |
| 11   | 4    |      |      | * D3595-063-450 | RUBBER CUSHION   |
| 12   | 4    |      |      | * MS21920-25    | CLAMP (OR MS21042-26)  |
| 13   | 4    |      |      | AN6-35A         | BOLT   |
| 14   | 4    |      |      | AN6-36A         | BOLT   |
| 15   | 6    |      |      | MS21042L6       | NUT (OR MS21042-6)   |
| 16   | 18   |      |      | AN960JD616      | WASHER   |
| 20   |      | 2    |      | * D2940-1       | SUPPORT  |
| 21   |      | 4    |      | * D3595-063-530 | RUBBER CUSHION   |
| 22   |      | 4    |      | * MS21920-28    | CLAMP (OR MS21042-30)  |
| 23   |      | 4    |      | AN6-40A         | BOLT   |
| 24   |      | 2    |      | AN6-41A         | BOLT   |
| 25   |      | 6    |      | MS21042L6       | NUT (OR MS21042-6)   |
| 26   |      | 18   |      | AN960JD616      | WASHER   |
| 30   |      |      | 1    | * D2896-1       | SUPPORT  |
| 32   |      |      | 2    | * D3595-063-570 | RUBBER CUSHION   |
| 33   |      |      | 4    | * MS21920-28    | CLAMP  |
| 34   |      |      | 2    | * MS21920-30    | CLAMP (OR MS21042-32)  |
| 35   |      |      | 4    | AN6-40A         | BOLT   |
| 36   |      |      | 2    | AN6-41A         | BOLT   |
| 37   |      |      | 6    | MS21042L6       | NUT (OR MS21042-6)   |
| 38   |      |      | 18   | AN960JD616      | WASHER   |
| 39   |      |      | 2    | * D3189-1       | CHAFING SHIELD   |
| 45   | 2    |      |      | * D3659-1       | CUFF   |
| 46   |      | 2    | 2    | * D3660-1       | CUFF   |
| 47   | 44   | 44   |      | * CR3212-4-06   | RIVET (M7885/3-4-06)   |
| 48   |      |      | 44   | * CR3212-4-07   | RIVET (M7885/3-4-07)   |
| 50   | 1    | 1    |      | D3428-1         | PLACARD  |

\*REFERENCE ONLY. PARTS ARE INCLUDED IN D212-664-147/247 OR D412-664-249 ASSEMBLIES ABOVE

NOTE: KITS INCLUDE EXTRA HARDWARE FOR COMPATIBILITY WITH BOTH DART AND BELL/AAI  
SKIDTUBES.